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THE OPHTHALMIC RECORD

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The July number of the Ophthalmic Record will contain a report of the proceedings of the Ophthalmological section of the American Medical Association, an original article by Wm. E. Bruner, Septic Thrombosis of the Cavernous Sinuses; one by Joseph A. Mullen, The Percentage of Color Blindness to Normal Color Vision; one by S. Potts Eagleton, Report of a Case of Accidental Inoculation of the Eyeball with Vaccine Virus. There will also appear Ed torials, Reviews, Reports of Societies, and items of interest to the profession.

The Record particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles when accepted are contributed to the Record exclusively. Illustrative cuts will be made at the expense of the journal, and proofs for correction will be sent to authors when desired. Reprints with covers are furnished at cost. One hundred of these will be presented to authors *gratis* when a request for them is written on the original manuscript. The Record will be issued monthly, and each number will contain about 54 pages of reading matter.

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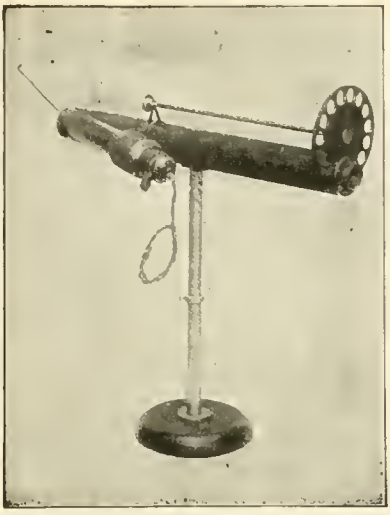

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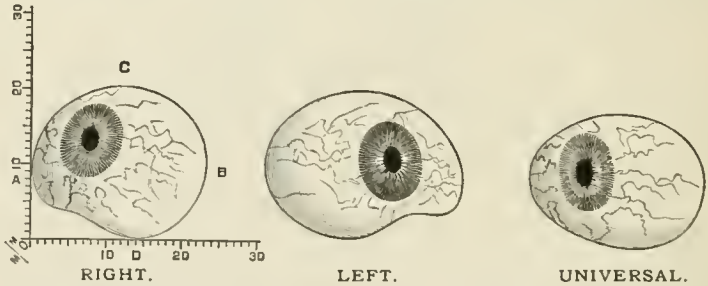

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TOTAL EMBOLISM OF THE ARTERIA CENTRALIS RETINAE.
CILIO-RETINAL VESSELS.--CASEY WOOD.

THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME VIII. CHICAGO, JUNE, 1899. No. 6. NEW SERIES

ORIGINAL ARTICLES.

A CONTRIBUTION TO THE TREATMENT OF EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA.

BY CASEY A. WOOD, M.D.,

Professor of Clinical Ophthalmology in the University of Illinois.

With Colored Frontispiece and Illustrated.

It is not to be supposed that because a disease does not readily respond to treatment that one should neglect all therapeutic measures. Yet a good deal may be said in favor of the *laissez faire* policy in the care of many, if not most of the examples of retinal embolism that come under one's notice. The fact that not a few cases of partial and even of total embolism have recovered without any treatment at all, may well give rise to the suspicion that some at least of the reported recoveries might have occurred without active interference, and that the happy issue was due to an accidental dislodgement of the plug or to the disintegration, or absorption of an imperfectly organized embolus. Having had an experience of some half a dozen cases in which all of the ordinary and some extraordinary measures were adopted, I thought it might be of interest to report these therapeutic experiences.

Case I.—*At first total (?), subsequently partial, embolism; embolus visible; recovery without treatment; cardiac disease.*

A full report of this case is published in Knapp's *Archives* for 1890. No remedial measures were employed, and I was able to watch the patient daily for three weeks after I first saw him—two days after the embolism.

H. W., aet 23, clerk, was talking to a friend in the street, when, without warning, he suddenly "lost all the sight in his left eye." There were no other symptoms and blindness remained complete for several hours. Then vision gradually returned in the affected eye, and next day he could see very well. He applied for advise simply to ask whether it would be safe for him to return to work. He seemed a healthy young man, and complained of nothing except shortness of breath after prolonged exertion. When seven years old he had an attack of acute articular rheumatism, and since then four other seizures. On examination I found an hypertrophied left ventricle, while a loud systolic bruit, propo-

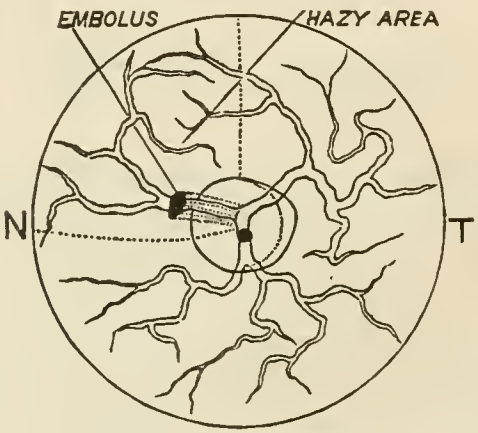


FIG. 1. Left Eye. Case I.

gated upwards, could be heard at the midsternum. There was marked increase of arterial tension. Patient is myopic, but with correction obtains perfect distant and near vision.

With the mirror the R. E. is normal, except a myopic conus. The left eye shows fine vitreous opacities. The upper inner quadrant of the retina is hazy, but there are no gross changes in this locality. Macula normal. The inner half of the O. D. is redder than the outer, and on its temporal border is a small crescent. No hemorrhages. Half a disc diameter from the edge of the papilla, up and in, is a small, well-defined yellowish spot. It lies immediately over, or at any rate, obscures the outline of the *ramus nasalis superior* at that point. The central artery divides (see fig. 1) about the middle of the disc into two branches, and the division of one of the latter into the usual superior nasal and temporal

twigs takes place before the edge of the disc is reached. The whitish spot referred to is situated in or about the arterial twig one disc-diameter from its junction with the larger branch. That portion of the vessel that lies between the yellow-whitish spot and its origin on the disc surface has a reddish outline and seems to be swollen.

My belief that the yellowish spot was probably an embolus, was concurred in by Mr. Gunn, in whose Moorfields Clinic I had charge of this case. The swollen trunk of the artery was later seen to have lost its peculiar arterial reflex, and looked as if it might contain a blood clot.

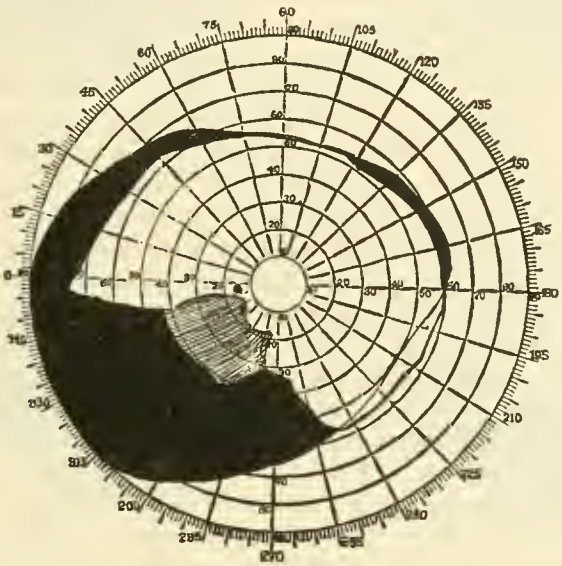


FIG. 2. Left Eye. Case I.

On admission the patient's field for white was taken. It will be noticed (fig. 2) that an irregular area of indistinct vision for white (seen as gray), in which there is no color perception, extends from the fortieth to the fifteenth parallel in the lower and outer quadrant of the chart. No essential variation from these limits occurred while the patient was under observation.

In a week the contour of the affected vessel is better defined, and the artery appears lighter in color and smaller than before. The corresponding vein is unaffected and the œdema continues about the same. When last seen a clearer picture of the fundus could be had although the limits of the hazy area can still be made out, the choroidal coloring being re-

placed by gray. The patient has not discovered the defect in his field, and is not conscious of it unless he closes his better eye.

Here we have a case where *complete* blindness (probably due to primary blocking of the central artery) persisted for several hours, and a partial defect was noticed by the patient for twenty-four hours. What curative value would have been assigned to the use of massage, iridectomy, paracentesis corneae, sclerotomy or eserin, if any of these forms of treatment had been resorted to in this case as soon as the blindness had been observed ?

Case II.—*Partial embolism in an apparently healthy subject; massage and iridectomy; gradual improvement in central vision and extension of the field.*—J. N. S., aged 26, came to me August 30, 1894, complaining that, ten days before, his right eye became suddenly blind. He had never had any trouble with his eyes except some infantile complaints that passed off without leaving any ill effect. His habits are good; there is no history of syphilis or rheumatism, and the patient has observed no departure from good health except a little headache the whole morning before the attack. The condition of his viscera was reported by a competent physician to be normal. He seems to be a strong and well-developed man. V.L.=20/20 and Jaeger 1. The vision in the left eye is 20/40, and patient reads Jaeger 1 when the type is held above the horizon. Objects held in front of him appear "cut in two." There is some scleral injection of the right eye. I discovered on questioning him that almost immediately after the accident the eye had been very thoroughly massaged by my friend Dr. F. C. Hotz, without any improvement in vision.

The ophthalmoscope shows a marked œdema of both upper quadrants of the right retina. There is a small hemorrhage at the outer margin of the disc, and what looks like an embolus at the bifurcation of the superior branch of the artery. The veins and inferior branch of the artery are larger than the upper vessels. In view of the fact that the eye had already been treated by the method referred to, I decided to do an iridectomy upwards in the right eye. This was done the next day after seeing the patient, and was followed by a measurable improvement in the patient's sight corresponding to a definite enlargement in his visual field. I am not prepared to assert that the increase of visual power was due to the operative procedure, but present the history as entered in my case book. On September 2d the retinal œdema was less and the vessels better seen. September 8th the plug (?) was no longer visible. September 12th. The patient sees hand-movements below the horizon, "in spots." The outline of the disc is clearer, and nothing can be seen of the supposed embolus. The retinal capillaries above are visible for the first time.

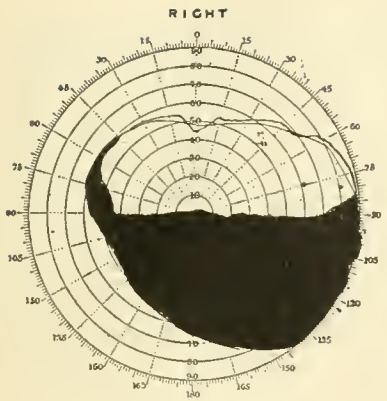


FIG. 3. Case II. No. I.

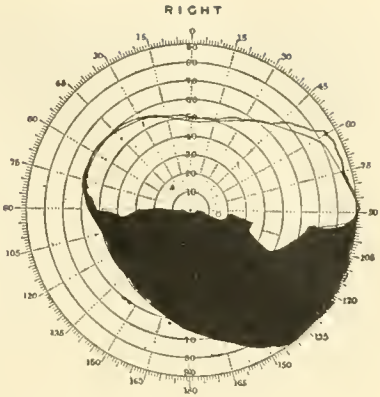


FIG. 4. Case II. No. 2.

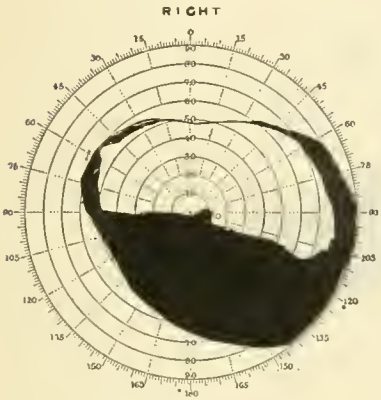


FIG. 5. Case II. No. 3.

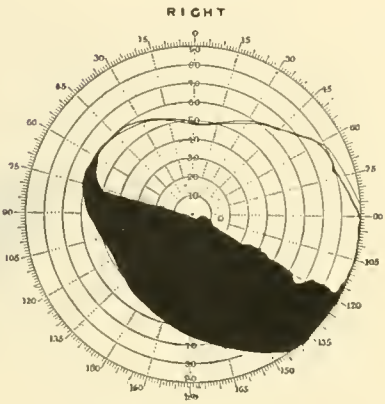


FIG. 6. Case II. No. 4.

FIG. 7. Case II. No. 5.

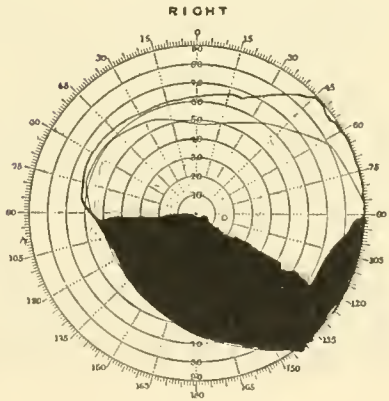


FIG. 8. Case II. No. 6.

I now saw the patient at longer intervals. January 16, 1895. Attempts to read bring on pain at the back of the right ball, accompanied by scleral injection. Otherwise the eye is quiet. Tn. V.R.=20/20—and Jaeger 1, with the types held in the usual position. The choroidal pigment in the upper quadrants of the retina cannot be as distinctly seen as in the lower. The branches of the superior artery can with difficulty be traced beyond the second bifurcation, where they begin to look like glistening whitish lines. The disc is of good color. March 8, 1895.—The patient has been doing work, with success, as a bookkeeper, and now complains of none of the old eye symptoms. The mirror shows the fundus changes to be the same as last recorded. V.R.=20/20, almost, and Jaeger 1 at 14 inches.

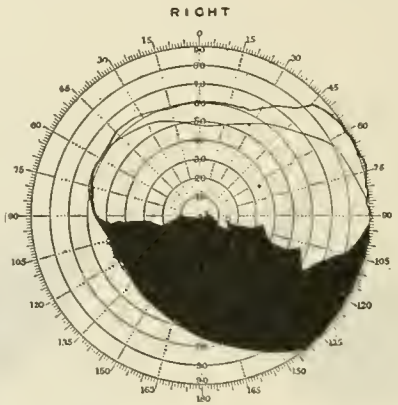


FIG. 9. Case II. No. 7.

CASE III.—*Total embolism of the left artery; organic disease of the heart; retention of a small island of precipient retina; treatment by massage with slight improvement.*

D. T. B., aged 57, consulted me on February 20, 1895. He gave a history free of all ocular troubles until the evening of February 19th, when he noticed a blur suddenly appear over the left eye. Closing the right eye he discovered that he was not able to do more than distinguish light from darkness. He had no pain at the time, and now has only a slight feeling of uneasiness in the globe. His health has not been good for several years past and he has had several attacks of acute articular rheumatism. Dr. Arthur Elliott reports that he is the subject of a chronic interstitial nephritis. Dr. R. H. Babcock examined him and sent me the following note: "In the case of the patient whom I examined this after-

noon I find a loud, mitral systolic murmur, but no secondary signs indicating a great degree of regurgitation. A faint systolic murmur, seemingly of different character, is audible in the aortic area and transmitted into the right common carotid. There is also chronic induration and quiescent cavity with vicarious emphysema of the apex of the right lung. The left radial artery shows slight thickening. I conclude that the sudden occlusion of the left central retinal artery was due to an embolus, either an atheromatous particle from some patch on the intima of the aorta, or a minute vegetation from the mitral valve. If the latter, it might be owing to a recent endocarditis engrafted on an old process. The history of articular rheumatism 24 years ago favors the conclusion that the mitral murmur is due to old endocarditis rather than atheroma." Vision in right eye is $\frac{2}{3}$, improved to normal by glasses. Fundus normal. There is no perception of light in the left eye except when the focal illumination is employed. Pupillary reaction to light hardly perceptible.

The ophthalmoscope reveals a typical picture of total embolism. The retinal œdema is very marked, there is a distinct cherry spot at the macular site, the arteries are small and in several places a sluggish blood current can be seen meandering through partially-filled vessels. Pressure upon the globe during the examination with the mirror has an appreciable effect upon the circulation. The edges of the disc are ill defined owing to the swelling. There is no sign of an embolus. I was encouraged to think that something might be accomplished by massage of the globe, and for several days gave the patient the benefit of it after the manner described by Fischer. This observer states that in his successful case the patient did not complain of soreness of the eyeball after half an hour's kneading, but it was not so with my patient. I was obliged to desist after ten minutes' firm but gentle pressure. This was repeated as often as it could be done without setting up too much irritation—two or three times during the day. The next day I could not make out any circulation in the vessels whatever; the veins were distinctly larger than on the previous day and seemed to stand out as dark lines irregularly covered by the swollen tissue. The arteries outside of the disc are with difficulty seen. The patient has now some perception of ordinary daylight. February 25th: Massage was stopped to-day as the patient complained of tenderness of the globe, and I did not believe that any good purpose would be subserved by continuing it. V. L. = perception of strong light over most of the field, hand movements toward the nose. The retinal arteries are entirely obscured, with the exception of a small nasal branch, indicated by a faint whitish streak. Outlines of disc cannot be

seen by the direct method. The papilla is also swollen and resembles the surrounding retina. Patient thinks he sees faint rays of light in outer field. March 6th: Hand movements toward the nose and center. The patient reports that for several days a bright, glittering, star-like light has persisted in front of his left eye. The background seems to be clearing up; the outlines of the disc are indistinctly seen. March 16th: There is a small island of precipient retina subtending two or three degrees in the otherwise blank field of vision, corresponding to the inner aspect of the retina, where movements of objects are perceived. With the partial disappearance of the œdema the arteries do not seem to be entirely obliterated, but are much reduced in size, with white lines running along a few of them. An area double the size of the disc, with the fovea for its center, is sprinkled with minute whitish dots. These overlie a retinal vein. October 4, 1895: The fundus changes vary but slightly from those noted at the last examination. With the right eye closed patient can perceive the outlines of objects when they move past the portion of his field previously observed as sensitive. He thinks that this ability to distinguish form has somewhat improved.

CASE IV.—*Total embolism in a healthy woman; massage and narrow iridectomy; some improvement in vision.*

Miss H. N., aged 26, consulted me March 16, 1895, for a sudden blindness of her left eye. She is a stout, well-developed girl, and her family physician, Dr. A. G. Perkins, reports that all the internal organs are normal, and that she is perfectly healthy, with the exception of some menstrual irregularity. There is no evidence of any previous eye affection until the early morning of the day I first saw her. She remembers that during the previous night she was awakened by a "hammering" on the left side of her head, and when morning came she was unable to perceive light with her left eye. I examined her at 10 A. M. There was doubtful perception of light in the left eye, with focal illumination. The pupil was semi-dilated, and did not contract to ordinary light. V. R.= 20/20—and Jaeger 1. Fundus normal, except a few opaque nerve fibres. The *left* background showed a clear picture of total embolism. There were "beady," swollen veins all over the fundus, their outline being greatly obscured, and in places covered by the uniform, whitish swelling of the retina. Except near the disc the arteries are invisible, and in that situation are almost buried in the œdematous background. There is a beautifully marked "cherry-spot" macula, looking like a dab of red in a white field. A faint brush of opaque nerve fibres stands out between the macula and the disc, the vessels on the surface of the latter being dis-

tinctly traceable. There is no sign of an embolus; and there are no papillary cilio-retinal vessels. On pressing the globe gently distinct pulsation in one disc vein can be made out. This pulsation was sometimes visible when no pressure was made. On the afternoon of the first day the patient complained of aching in the eye and that movements of the globe were painful. March 17: Now no pain on excursion in various directions. The retinal vein trunk on the disc still pulsates, but the branches being obscured by the œdema one cannot say whether the movement is propagated beyond the disc border or not. The superior branch

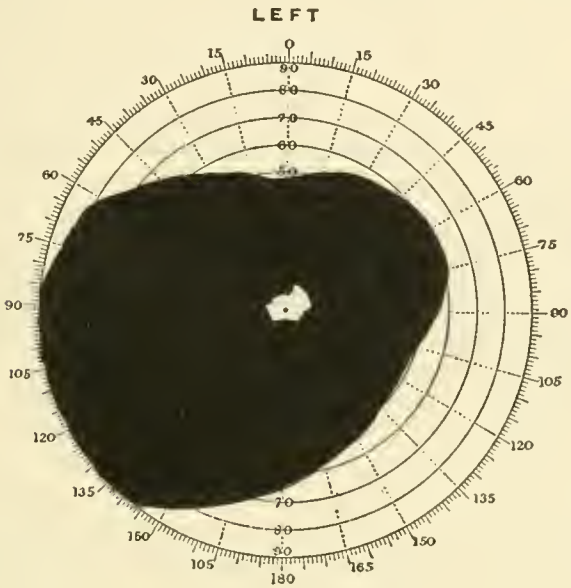


FIG. 10. Case IV. Oct. 1895.

can barely be seen for a d.d. beyond the papilla, where a sluggish stream of blood is seen. V=hand movements. With the moving hand the field may be roughly determined. It is circular, eccentric, includes the pole and is about 15° in diameter, stretching about 10° toward the temporal side. March 19: Faint pulsation may still be seen. Lazy blood-current before mentioned.

I at once vigorously applied massage (followed by hot fomentations) to the left eye for two or three minutes at a time, from four to six times daily, until the 21st, desisting as soon as the eye became tender or the patient complained of pain. I now did a small upward iridectomy.

March 23d: To-day the wound has entirely healed, and a rough map of the field of vision shows its extension to the twentieth parallel, the pole for center. The veins appear larger, fuller and more prominent, their outline being less "beady" than at first—conditions probably due to the decrease in the retinal swelling. March 25: No pulsation can be discovered in the distended vein. March 29: There is less swelling in the macular region. The cherry-colored area is less marked; small, whitish, punctate spots stretch from the fovea to the disc margin. The fundus elsewhere has assumed a dirty, grayish red. The veins are somewhat smaller and the disc is ill defined. April 8: A few cholesterine crystals are scattered over the fundus. April 28: V=hand-movements. There is a blotch of grayish white occupying the foveal region; the cholesterine deposits are more numerous. Veins large, arteries very small, outlines of disc fairly clear. October 27, 1895: The patient states that her vision is greatly improved, and thinks she can read and see in the distance better when the left eye is covered. There are not many changes in the fundus, although the papillary border is more readily made out. The 10 mm. white object of the perimeter being readily seen, I had her field mapped out. See Fig. 7. V=fingers at two feet, eccentrically.

Case V.—*Total embolism in a patient subject to chronic cardiac disease; preservation of partial vision by cilio-retinal vessels; treatment of small avail.*

W. H. M., aged 56, appears to be in good general health. Nevertheless twenty years ago he had several attacks of acute articular rheumatism, and Dr. Einarson reports some form of organic disease of the heart. He began to wear glasses eight years ago for near work, but has never had any trouble with his eyes apart from this presbyopia. He consulted me on Nov. 28, 1898, and reported that while reading the evening before he found, suddenly, that he could not see anything with his left eye. There was and is absolutely no other ocular symptom. V. R.=$\frac{20}{20}$ minus, and Jaeger 1 with glasses; V. L.=$\frac{20}{100}$, and Jaeger 16 with glasses, both eccentrically. Pupillary reactions almost normal. The left fundus presents a remarkable picture. The reddish tint of the normal background is replaced by an opaque whitish appearance except within a small area that stretches from the macular region to beyond the disc. The line of demarkation between this creamy-colored œdema and the normally-tinted retina in this neighborhood is sharply defined. One can everywhere make out the swollen edges of the retina as it adjoins the unaffected part. The fovea is occupied by a small, reddish, black spot. The veins have a sausage-like appearance, and are partially covered by the retinal swelling. The exact state of the arteries cannot be made out, as they are even more

concealed by the swelling. The disc is well defined and apparently not affected by the general œdema, except that it has to some extend lost its normal transparency and is a little paler than the right papilla. The whole of the disc seems to lie within the unaffected area, although the latter mostly extends beyond its temporal edge. Running from the margin of the papilla toward the macular region, are at least two cilio-retinal vessels. (See colored frontispiece.) Recognizing this case as one of retinal embolism, massage was employed at once and thoroughly carried out, in conjunction with amyl nitrite inhalations, for over a week.

December 3: The œdema and interrupted outlines of the veins—still partly covered by swollen retinal tissue—are still seen. The nourished

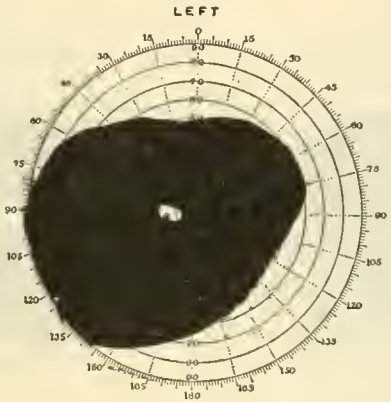


FIG 11. Case V. No. 1.

area appears smaller and its outlines are not, however, so well defined as before. December 8: Patient thinks he sees better. The retinal swelling is not so marked, nor is the contrast between its whitish character and the normal retina. Feb. 19, 1899. The ophthalmoscope shows the area supplied by the cilio-retinal vessels to be faintly distinguishable from the remainder of the fundus. Except the smallest arteries all the vessels of the background can be traced to the periphery. The macular region is studded with white dotted exudates. The cilio-retinal vessels are smaller than they were, although they are easily seen. The patient has vision of $\frac{2}{1}$—and Jaeger 14 in the left eye. The field of vision is measured with much difficulty in this case, and although the charts show unanimity so far as the size of the field is concerned they do not apparently correspond to the position of what one might expect to be its exact locality. Those reproduced in figures 11, 12, 13, 14, 15 were taken with all possible care.

The painting of the fundus (see frontispiece) is a faithful reproduction by Miss Cleveland of the background as it appeared on Dec. 10, 1898. The boundaries of the normal retinal area were much more plainly marked when seen two days after the blindness was discovered.

The fact that must always be reckoned with in estimating the value of any remedial measure for retinal embolism is the tendency of almost every case to improve, with or without treatment. The instances are exceedingly rare where, either in total embolism or in obstruction of the larger branches of the central artery, no blood circulates through the vessels. There is usually some retinal area that, as a result of a partial blood supply, survives and functionates after it has passed through the

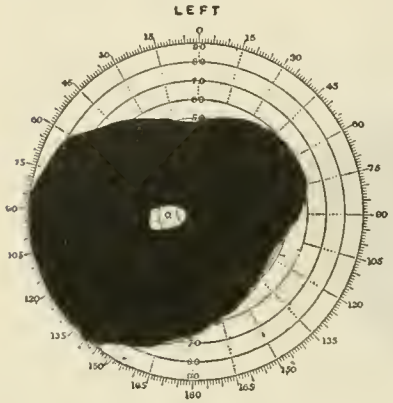


FIG. 12. Case V. No. 2.

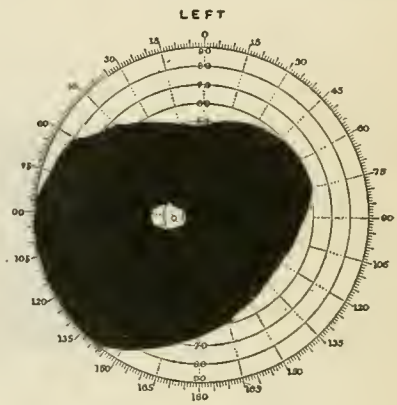


FIG. 13. Case V. No. 3.

initial stage of œdema and strangulation, even if it be eventually destroyed as the result of atrophy of the nerve itself. Such functionating retinal oases or sectors increase in area because of the extension of these reviving areas. The nutrition of the retinal strip that bounds the margin of the defect is not so entirely cut off from its proper nutrition as are the central portions. When the œdema subsides this partially-affected border recovers and vision is improved.

The extent of the damage and the possibility of its repair also depend upon the position and character of the embolus. If this be a solid, fibrous plug, caught at the bifurcation of a vessel, it will not entirely block the passage of blood, and the final effect upon the area supplied by it will be less disastrous than if the embolus be of softer material and, adapting itself exactly to the lumen of the vessel, completely shut off the blood stream.

Another chance of improvement in vision apart from treatment, hangs upon the possible absorption of the plug. Several autopsies have shown that this has entirely disappeared within a comparatively short time. Should the embolus undergo even a partial absorption before destructive secondary changes in the obstructed vessels, optic nerve and precipient elements of the retina declare themselves, it is easy to understand that, with a return of the nutritive supply, the less injured parts of the retina will once more resume their lost function.

So far as iridectomy is concerned—with it as a remedy one may include sclerotomy and paracentesis corneæ—for the sake of a sudden reduction of the intraocular tension, it seems as rational now as it did to Graefe

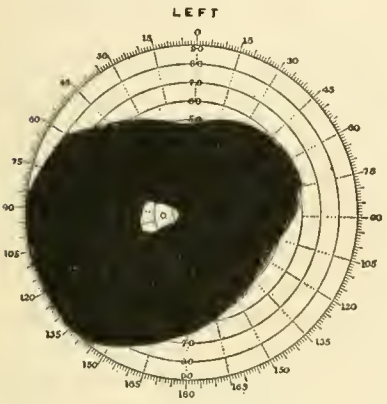


FIG. 14. Case V. No. 4.

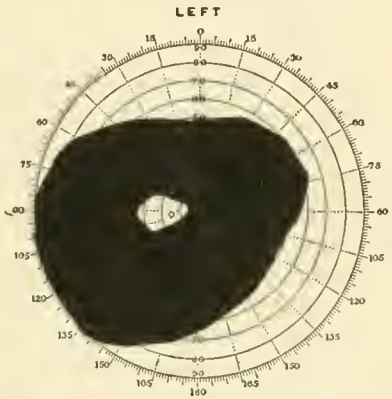


FIG. 15. Case V. No. 5.

in 1859. If the caliber of the obstructed vessel be increased even for a few days after the critical moment of the embolism, it is surely to be desired. Amyl nitrite inhalations, as suggested by Harold Gifford, might well be employed either alone or as an adjunct to iridectomy, paracentesis or massage. The reputation of the last-named remedy rests upon a few successful cases. One cannot, however, read Fischer's monograph, or accounts of similar cases, without wondering what became of the embolus, exactly how it was affected by the massage of the eyeball, and what would have happened had nothing been done in these cases. As long as it retains its form and solidity one can imagine no escape for the embolus. Its effect as an obstruction continues even if, as Fischer supposes, the operation of massage produce a return current (producing a *vis a fronte*) that thrusts back the valve-like embolus, allowing for an instant a side stream of blood to flow to the impoverished retina. Complete recovery,

after dislodgment of the plug, demands its early absorption after it has been broken up into minute fragments and so carried to the finest retinal arterioles.

The probability is, also, that cilio-retinal anastomoses exist apart from the vessels so commonly visible at the disc. In case No. III the field for white certainly shows that healthy retina exists beyond the nasal edge of the disc, yet it did not so appear at any time as seen by the ophthalmoscope. The most careful examination with the mirror does not reveal any cilio-retinal vessels except those that (as shown in the colored painting) run toward the fovea. Why should we not have similar anastomoses in other parts of the fundus? May not the existence of peripheral retinal oases (as pictured by many writers) in the blind areas of embolism be thus explained?

The visual field cannot be more than approximately measured in these cases of dulled and eccentric vision, and this is true both as to its size, shape and position. Even when the greatest care is observed by the surgeon, or where such devices as watching the fixing eye while it gazes upon a finger end for a fixation point are employed, only an approximation to correctness can be obtained. This, I take it, will partly explain the apparent contradiction implied in the histories of some cases of extensive embolism and their accompanying perimeter charts.

A word as to the effects of massage upon the damaged eye is in order. In two of my cases where this remedy was employed the globe became decidedly tender and scleral congestion was evident after two or three minutes' steady pressure. In one of them the embolism had been preceded and followed by pain and soreness in and about the eyeball, and doubtless the irritability of the structures had much to do with the tenderness after massage.

I do not believe that, with the majority of American patients at least, it is possible to keep up effective kneading of the globe for more than two or three minutes at a time, and it seems more rational to attempt to accomplish this three or four times daily than to continue the massage half an hour once a day.

Use has been made of and reference given to the following articles:

Casey Wood. Embolism of the superior nasal branch of the arteria centralis retinae. *Archives of Ophthalmology*, 1890, p. 203.

R. Fischer. Ueber die Embolie der arteria centralis retinae. Leipzig, 1891.

Arthur Benson. On a case of embolism of the central artery of the retina, modified by the presence of a cilio-retinal artery. *Ophthalmic Hospital Reports*, Vol. X, p. 336.

Angelucci. Sulle trombosi ialine dei vasi dell' occhio. *Annali di Ottalmologia*, Anno XIX, p. 503. Compare also Anno VIII, 407 e IX, 197. Trombosi della vena centrale della retina.

P. H. Mules. On embolism of a branch of the central retinal artery treated by massage, with restoration of the visual field. *Trans. Ophthal. Soc., U. K.*, VIII, p. 151.

E. Nettleship. Cilio-retinal blood vessels (additional cases and remarks). *Ophthalmic Hospital Reports*, Vol. X, p. 161.

A. von Graefe. Embolie der arteria centralis retinae als Ursache plötzlicher Erblindung. *Archiv für Ophthalmologie*, 1859, I, S. 136.

See also cases by Dr. Eales and Dr. Wood-White, reported in the *Ophthalmic Review*.

A CASE OF CHANCRE OF THE CONJUNCTIVA.

BY E. C. ELLETT, M.D.

Formerly House Surgeon in the Wills Eye Hospital, Philadelphia; Ophthalmic and Aural Surgeon to St. Joseph's Hospital, The City Hospital, The Lucy Brinkley Hospital, The Children's Home, The Leath Orphan Asylum, and the Shelby County Poor and Insane Asylum, Memphis, Tenn.

Illustrated.

While extra-genital chancres are not exactly rare, in the majority of such cases the diagnosis rests on scanty evidence, or is arrived at by the history of infection or the possibility of infection. The publication of a case in which there is no "missing link" in the evidence seems to be justified as a means of keeping before the physician the possibility of the occurrence of a primary sore in the most out-of-the-way places, and thereby guarding against his falling into an error of diagnosis alike mortifying to him and disastrous to the patient.

Jas. S., aged 24, was referred to me by Dr. Marcus Haase for an inflammatory affection of the right eye. The condition had persisted for about four days and presented externally the appearance of a moderate sized chalazion situated at the inner extremity of the upper lid. On everting the lid an ulcer rolled into view, whose size and location are well shown in the accompanying photograph.

The edges were elevated and whiter than the center, and the base was firm and unyielding. There was a moderate amount of secretion, no pain, but a stiff, sore feeling, and the surrounding ocular and palpebral conjunctiva injected. The preauricular gland on the right side was much enlarged and quite hard and the supervical cervical glands in front of and behind the sterno-mastoid as well. There was no history of possible infection, except that he had often washed his face and hands in hotel lavatories and dried them on the public towel.

I presented this patient to the Memphis Medical Society, where he

was examined by several of the members. The diagnosis seemed to be sufficiently plain, and those who expressed an opinion agreed that it was probably specific. The patient was taken to St. Joseph's Hospital in order that he could be closely observed—a solution of boric acid was given him but no internal treatment ordered, as it seemed best to await the appearance of the secondaries to convince the patient of the nature of his trouble. He was not inclined to believe that it was specific. Four weeks from the day of the beginning of the eye trouble a syphilitic roseola appeared on his body. This eruption was quite typical, and there was at this time general adenopathy. The primary sore had hardly changed its appearance. The patient was anxious to leave the city, which he did the day the eruption appeared. I assured him that there could be no possible doubt as to the nature of the trouble, and hope he profited by the knowledge.

Continental Building.

FISTULA OF THE ORBIT DUE TO DISEASE OF THE LACHRYMAL DIVISION OF THE ETHMOIDAL CELLS; OPERATIONS AND CURE.*

BY G. E. DE SCHWEINITZ, A. M., M. D.

PHILADELPHIA, PA.

Illustrated.

In November, 1897, I presented to the *Philadelphia County Medical Society* † the report of a case of abscess of the orbit which resulted from suppurating ethmoiditis, and described an operation which resulted in its radical cure. In this paper I referred to certain fistulas of the orbit above the internal tarsal ligament due to disease of the ethmoid, which Gruening ‡ had described and cured by forcing with a strong probe an opening through their bases into the nasal cavity, and thus facilitated drainage. It is to the treatment of this class of cases that I wish to direct your attention by the following report:

Kate Patterson, aged 19, born in Pennsylvania, unmarried, a factory worker, came to the Philadelphia Polyclinic in October, 1897, with the hope of obtaining relief from what she believed to be a purulent discharge from the lachrymal duct.

History.—The family history is good, the mother being a healthy,

* Paper read before the *Ophthalmic Section of the College of Physicians of Philadelphia*, March 21, 1899.

† *Philadelphia Medical and Surgical Reporter*, November 20, 1897.

‡ *New York Eye and Ear Infirmary Reports*, January, 1896.

hard-working woman. When the patient was seven years of age she had chicken-pox, followed shortly afterwards by scarlet fever. Some time later, probably when she was about eight years of age, the mother noted a small lump in the neighborhood of the inner canthus, which was poulticed and discharged purulent material.

In 1892 she was taken to a hospital, where the tear-duct was opened and probed a number of times, but pus continued to form and to exude from an opening near the inner canthus. She was then admitted to this hospital, where she remained for five months, according to her statement the lachrymo-nasal duct being probed daily. A number of minor operations also appear to have been performed, probably curettings of the fistulous track. After leaving the hospital she continued as a more or less regular attendant in its dispensary service, the treatment consisting of irrigation of the lachrymo-nasal duct and syringing of the sinus with peroxide of hydrogen and other antiseptic materials. As before stated, in the fall of 1897 she presented herself at the Philadelphia Polyclinic.

Examination.—The girl was small, but well formed, with good color, and a voice typical of nasal disease. Examination failed to reveal anything abnormal in her general condition. The eyes, which were practically normal, require no special comment. The right canaliculus was widely dilated, and the duct admitted with the greatest ease a No. 6 Bowman probe. When this was in place it was evident that a fistula, surrounded by slightly everted edges and a few granulations, which opened just above the inner tarsal ligament, did not communicate with the duct, nor apparently with the lachrymal sac. A second probe was next introduced into the fistula, and after a little difficulty was passed inward, slightly backward and downward. With the two probes in place the patient was taken to the laryngological rooms, where Dr. Walter J. Freeman made a nasal examination, which revealed that the one probe had passed through the lachrymo-nasal duct and was in its ordinary position, while the other one could be seen in the middle meatus, occupying another position, and at that time was supposed to traverse the frontal cells.

The patient had been examined by Dr. Freeman four months before, when he had noticed deviation of the septum to the right, thickening of the cartilage on that side, and, on rhinoscopic examination, pus coming from the right side of the nose, but its origin was not determined. There were synechiae also between the turbinals and the septum on both sides.

After consultation with Dr. Freeman, it was determined that an operation should be made from the orbit in order to secure, as Dr. Gruening had advised, intra-nasal drainage.

On the 16th of November I made a curvilinear incision, beginning just below the fistulous opening at the inner tarsal ligament, and passing along the side of the nose and the margin of the orbit, as far as the supraorbital foramen. The tissues were dissected away, the margin of the orbit above was explored, and the region of the ethmoidal foramina was examined and seen to be healthy. The fistulous track was then with some difficulty followed and found to open just above the tendo oculi and to pass into the nasal chamber. A quantity of carious bone was curetted away, and a free opening was made into the nasal chamber. Through this opening a fenestrated drainage tube was introduced, brought out through the anterior naris, and held in position in the manner seen in the accompanying illustration (fig. 1). The subsequent treatment consisted of daily irrigation of this tube with various antiseptic solutions—saturated boric acid lotion, bichloride of mercury (1–8000) and formaldehyde (1–6000). There was no reaction, not even a rise of temperature, and only moderate swelling of the tissues around the eye.

On the 23rd of November the large drainage tube was substituted with a smaller one and the irrigations continued, and on the 29th of the same month the patient was discharged from the house, but came daily for intra-nasal treatment and irrigation of the drainage tube. This part of the work was attended to by my resident physicians, Dr. Haines and Dr. Van Meter.

There was marked improvement at first, and for a time we thought the fistula had closed. Later, in January, slight swelling of the tissues began in the neighborhood of the old fistula, which was relieved by a flow of pus. Furthermore, the introduction of a probe indicated that there were still undetached areas of carious bone, probably intra-nasal. Dr. Freeman and I now agreed that as the orbital end of the diseased tract had been thoroughly curetted, the process should be attacked from the intra-nasal side. Dr. Freeman very kindly undertook thorough treatment from this standpoint. His notes are appended:

"At Dr. de Schweinitz's request, I took charge of the case to see what could be accomplished by nasal treatment. The septum was so much hypertrophied and the tubercle of the septum was so enlarged it was impossible to see much of the middle meatus and the middle turbinal was almost entirely concealed. I found later that it was united by synechiæ to the septum, and there were other bridges in the nose, showing that a severe nasal inflammation had existed in the past. From these evidences of previous inflammation, there is no doubt in my mind but that the orbital fistula arose from the nose.

FIG. 1.
Introduction of drainage tube after making an opening through fistula into nose.

FIG. 2.
Result after complete cure of fistula.

As the drainage tube was not draining well, an aluminum stylet was substituted for it. I then removed the obstructing hypertrophies of the septum with the electric trephine, until the olfactory cleft could be readily seen, and later cut through the more dense masses of bone around the stylet, which I could now readily see projecting into the nose. Using curettes and delicate biting forceps on the softer portions, the lachrymal cells were obliterated until only a thin plate of bone lay between the nose and the orbit. The various synechiæ were broken up and the nose put in good hygienic condition. Just four months from the time the stylet was put in it was removed, as the purulent discharge into the nose and from the orbital fistula had entirely ceased."

The ultimate result may be seen in the accompanying illustration (Fig. 2). There is practically no deformity—only a slightly indrawn cicatrix at the seat of the old fistula. The function of the eye is normal in all respects and the intra-nasal structures are free from active disease.

In order to cure this fistula, which had existed certainly for six and probably for eight years, for it no doubt dates to the time of the swelling which the mother describes at the inner canthus of the eye, required nearly seven months and a good deal of operative interference, the entire credit of the final work belonging to Dr. Freeman. Whether a case of this character could be cured by intra-nasal treatment alone does not appear from the present record, as both the orbital and intra-nasal methods of reaching the diseased area were employed. I am inclined to think, and Dr. Freeman, I believe, agrees with me, that it was the part of wisdom first to enlarge the fistula from the orbital end, and clear out the dead tissue which was found there, and then attack it from the nose. Personally, I believe that I might have curetted with greater freedom at the original operation and perhaps shortened the intra-nasal treatment, but with the knowledge that the septum was greatly hypertrophied, and that synechiæ attached the middle turbinated body to the septum, it seemed safer to trust to Dr. Freeman's skillful intra-nasal manipulations to complete the cure.

My chief reason for calling attention to this case, no matter which form of operation is considered the wiser, or whether, as I believe, both methods may be needed, is to emphasize the origin of certain orbital fistulas. I am inclined to think that they not infrequently must be due to disease either of the ethmoid proper, or, as in this case, of the lachrymal division of the ethmoidal cells, which it will be remembered are located just beneath the extreme anterior end of the middle turbinated body and near its junction with the outer wall, and form one of the divisions of the

ethmoidal cells. Furthermore, fistulas of this character may be mistaken for chronic dacryocystitis. Certainly my patient submitted to eight years of treatment directed toward the lachrymo-nasal apparatus without benefit. Indeed, this apparatus was not at fault, or if so, only secondarily, i. e. it was in no sense the original seat of the disease.

ABSCISSION AND COMBINED KERATECTOMY.*

BY GEO. C. HARLAN, M.D.

PHILADELPHIA.

In showing the stump resulting from an abscission, I wish merely to call attention to an old operation which seems to me of late years to be too much neglected. It was performed very frequently, almost universally where only the anterior segment of the ball was diseased, twenty or thirty years ago, and, so far as I know, with almost uniformly satisfactory results; but thanks to the dread, that has been almost morbid, of that *bête noir* of ophthalmic surgery, sympathetic ophthalmia, it has in more recent times been almost driven from the field by enucleation. There is a fashion in operations as in everything else, and the ease and quickness with which enucleation is performed, the little or no trouble that the after-treatment gives, and the comparatively fair chance of never hearing of the case again have enabled this operation to maintain its popularity.

There is certainly a comfort in the radical character of enucleation, but in these times of antiseptic surgery and artificial vitreous, patients are often more than willing to take chances of greater suffering and delay, or even danger, for the sake of appearances, and cosmetic prejudices cannot always be defied. It is, however, not only a question of appearance, though that sometimes means employment and success in life, but there is the annoyance of overflowing tears and collecting discharges, and occasional inflammation of the conjunctival sac, ending too often in cicatricial contractions that banish the artificial eye entirely. As we grow older in practice we become less optimistic in this matter, and learn that the enucleation of an eye and the insertion of a shell is not by any means always the end of the story. Hence the modern search for surgical procedures that will admit a more satisfactory prothesis, and the hope that in future an unmitigated enucleation will be considered a comparatively rare and rather barbarous exception. When the disease is limited to the anterior segment of the ball, this problem would seem to be best met by

* Read before the *Ophthalmological Section of the Philadelphia College of Physicians.*

some form of abscission, retaining the natural vitreous, which is certainly better than any substitute. I think it may be considered an axiom that in such cases the ball should never be enucleated.

The operation which was perhaps formerly most in vogue was advocated by Critchett in 1863 and is known by his name. It is described and figured in some of the older textbooks. The members of the Section are familiar with it, at least as a matter of literature, and it is not worth while to describe it minutely. Four or five threaded half-curve needles transfix the ball behind the ciliary region and are left in place until the parts in front of them are removed, when they are drawn through and the threads tied. The angles of the wound are cut off to make a smooth cicatrix. A similar procedure was described by Wild in 1847. I usually cut away the front of the ball without the use of the long needles, and bring the edges of the wound together with fine stitches. There is not much difficulty in retaining the vitreous if the patient is thoroughly etherized. I have done the operation frequently, and have never met with an irritable stump, or seen one in the practice of others.

Mr. Carter reported a case in which the Critchett operation was followed by loss of the other eye by sympathetic ophthalmia, which he attributed to puncture of a ciliary nerve by one of the needles. In subsequent operations he closed the gap by catgut ligatures passed through the recti muscles and brought the conjunctiva together over them. This is the only record of this accident that I can recall, though not having made a special search I am not prepared to say that there are not others. There may, of course, have been still other cases which were not reported, as we are apt to be modest about rushing into print with our disasters. We all know that a good many cases of sympathetic ophthalmia after enucleation have been reported. If there is a real danger in suturing the sclerotic, it can be avoided by including the conjunctiva and subconjunctival tissue only; or even the superficial layer of the sclerotic, as is done so harmlessly in advancement operations. Or the purse-string operations of Knapp and Wecker may be preferred. The conjunctiva and subconjunctival tissue are dissected up and threads are passed in and out through them, by drawing upon which, after removal of the front of the ball, the gap is closed like the mouth of a tobacco pouch.

Attention has recently been called to this subject by Panas,* who describes an operation which he calls combined keratectomy and which seems to differ from the operation of Critchett chiefly in that the incisions and stitches are placed in front of the ciliary body instead of behind it,

* *Archiv. d'Ophthalmologie*, September, 1898.

so that the choroid is not disturbed and the ciliary vessels are not divided. The corneo-scleral junction is transfixed with a half-curve Reverdin needle, which is made to pass behind the iris and lens, and the cornea is excised in front of it by an incision passing through the margin of the transparent portion. If the iris and lens do not come away with the cornea, they are removed with forceps and scoop and the edges of the wound are brought together by drawing the needle through and tying the thread. Sutures are placed on each side of this one and the projecting angles at the extremities of the wound are cut away to make a smooth cicatrix, as in the Critchett operation. Panas urges this operation in all cases of corneal staphyloma and painful absolute glaucoma. He has performed it in one hundred and fifty of the former cases and fifty of the latter, and has been able to follow the greater portion of them for eight years after. All have been able to wear the artificial eye with perfect comfort. In absolute glaucoma the pain has been promptly and permanently relieved. In panophthalmitis he advises evisceration, but opposes the Mules operation on the ground that any foreign body introduced into the scleral cavity as a substitute for the vitreous is badly borne, gives rise to reaction and ends by being expelled. He, however, gives no statistics to show that these theoretical considerations are supported by facts.

BRIEF REPORT OF A CASE OF FIBROMA OF THE EYE-LID. (PAINFUL SUBCUTANEOUS TUBERCLE OF WOOD.)*

BY CHARLES A. OLIVER, A.M., M.D.,

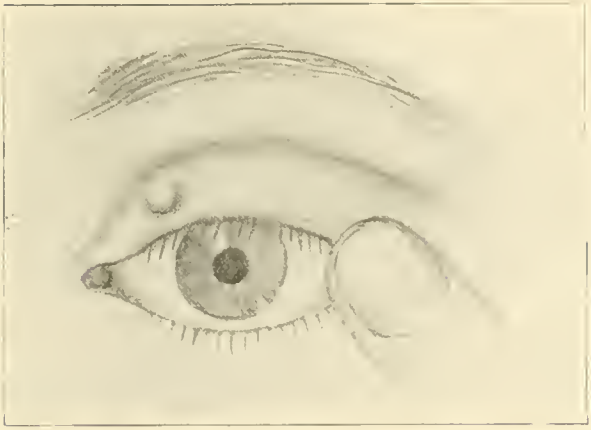
Attending Surgeon to the Wills' Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital.

Illustrated.

The accompanying reproductions of a sketch of the growth in the eyelid, made for me by my friend Dr. Chas. H. Reed, of this city, and a photograph of a portion of the patient's back, taken by my Resident Dr. C. Y. White, of this city, give a very good idea of the general appearances of the condition.

In April of 1896, H. B., a forty-year-old syphilitic was brought to me in the Eye Wards of the Philadelphia Hospital, for study and treatment of a left abducens palsy. He stated that the nodules antedated the pri-

*Read before the March, 1899, meeting of the *Section on Ophthalmology of the College of Physicians* of Philadelphia, Pa.



mary infection of syphilis for a long period of time, and that they were unaffected by medication. The lid nodule, which slowly reached its present size many years ago, had remained stationary for several years' time. Like those on other parts of the body, it had been subject when irritated, though to a less degree, to paroxysmal attacks of radiary pain, lasting for varying periods of time, each attack being followed by a numbness and soreness in the affected part. Latterly, these painful exacerbations had not been so marked. The tumor on the lid, which presented a quite different appearance from an ordinary chalazion, was situated immediately beneath the skin in the subcutaneous tissue. It was prominent, circumscribed, of firm consistence, and freely mobile. No deeper-seated growth could be felt throughout the entire lid-area.

Repeated medication has not had any effect on the growth. Removal and section of one of the nodules showed its true character—curvlinear bundles of densely packed fibrous tissues containing many blood vessels.

The case has been deemed worthy of brief notice, not only on account of the relative infrequency of the disease in the male subject, but by reason of the unusual situation of one of the nodules.

A CLINICAL STUDY OF DOUBLE CHOKED DISCS IN A CASE OF QUIET OTITIC THROMBOSIS OF THE SIGMOID SINUS, WITHOUT PYÆMIA.*

BY CLARENCE A. VEASEY, A.M., M.D.,

Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic; Demonstrator of Ophthalmology, Jefferson Medical College; Chief Clinical Assistant to the Ophthalmological Department, Jefferson Medical College Hospital; Consulting Ophthalmologist, Philadelphia Lying-in Charity, etc.

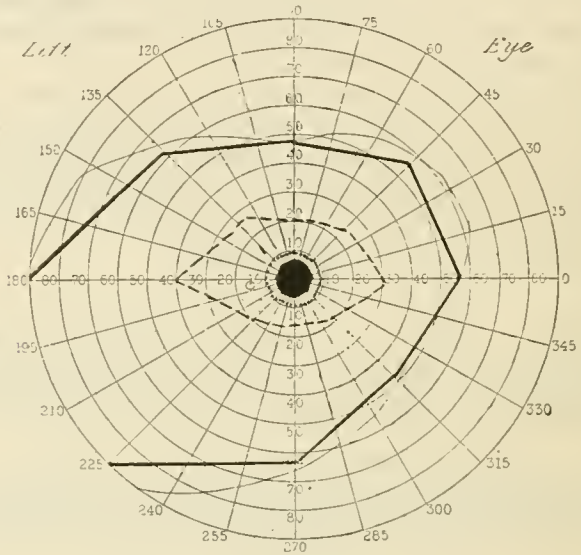
Illustrated.

THAT optic neuritis sometimes occurs as a complication of suppurative aural disease is now a well-established fact. Probably the first to call attention to this connection was Dr. C. J. Kipp of Newark, N. J. About 1880 he reported that in the examination of fifty cases of purulent inflammation of the middle ear he found four in which optic neuritis was present. Two of these recovered and two died. In a paper published about five years later the same experience as to the mortality obtains, viz: that death ensued in about 50 per cent of the cases in which optic neuritis was found, while all of the cases of supposed intra-cranial extension without optic neuritis recovered.

*Presented to the *Section on Ophthalmology of the College of Physicians*, of Philadelphia, April 18, 1899.

In cases of sinus thrombosis consequent upon middle ear disease w also meet with optic neuritis, occasionally but unfortunately, if take alone, it does not assist us materially in making our diagnosis betwee meningitis, abscess and thrombosis. But, according to Pooley, it doe enable us to conclude that the disease is not limited to the middle ear o mastoid, but has undoubtedly extended to the brain, whether or not ther is other corroborative evidence.

Optic neuritis has also been reported in cases of uncomplicated sinu thrombosis. [1]Pitt records four, Whiting three, and Jansen twenty-eigh



No. 1.

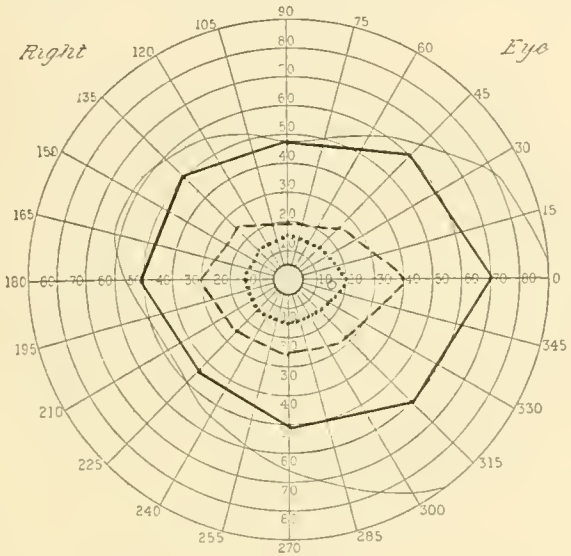
such cases. Among Jansen's cases there were nine of choked discs, on of optic neuritis, and four of hyperæmia of the nerve-head, constitutin 50 per cent of his cases. From this it would seem that the condition i found more frequently in the uncomplicated than in the complicate cases.

While the intra-ocular complication is more frequently hyperæmia o the nerve-head, or a low grade neuritis, typical and well-marked choke discs are occasionally found; and it is to the clinical study of a case o this character to which I invite your attention this evening.

The patient was a male, aged 12 years. Between two and three year before the aural trouble presented itself he had an attack of scarlet feve

[1]Quoted from Whiting *Arch. of Otology*, Vol. XXVII, No. 6, 1898.

so mild that the rash was thought to have been due to irritation from his underclothing, and the true nature of the affection was not recognized until a sudden attack of uremic coma set in. From this he made a very excellent recovery under the treatment of the family physician, Dr. Geo. M. Wells. In February, 1897, there was a distinct attack of diphtheria with earache, but unattended with any discharge. From this time on, however, there were recurrent paroxysms of earache, and on the 1st of June, after an unusually severe attack, a few drops of pus escaped from the left ear and an abcess formed over the mastoid of the same side,

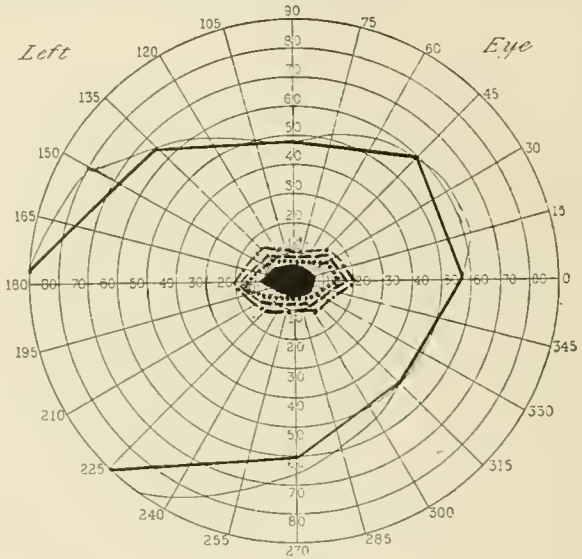


No. 2.

which was evacuated through a small incision by Dr. Wells, the patient apparently recovering from the local condition. He was so much prostrated, however, that he remained in bed and rapidly lost flesh, his belly becoming markedly scaphoid and each rib projecting. During this attack (June, 1897), the left side of the face became paralyzed, but at the time of the examination the paralysis was not complete as he was able to close his eyelids.

On June 18th, he was taken with severe frontal headache and repeated vomiting. The latter was not clearly cerebral in type, as it seemed, to a certain extent, to be connected with the ingestion of food. There was no retraction of the head, no mastoid symptom, and the temperature was but little elevated.

On the 20th, Drs. James Hendrie Lloyd and W. W. Keen were called into consultation. The boy was greatly emaciated, lying in bed in a darkened room as he suffered considerable from the light, and complained of excruciating headache. There was no visible ophthalmoplegia and the pupils reacted promptly. Over the left mastoid, and the left jugular below the mastoid, there was very slight tenderness on pressure. The pulse was 56, and irregular. In view of the conditions present it was thought that he might be suffering from an otitic cerebral abscess, or from lateral sinus disease, this opinion having been given by Dr. Lloyd



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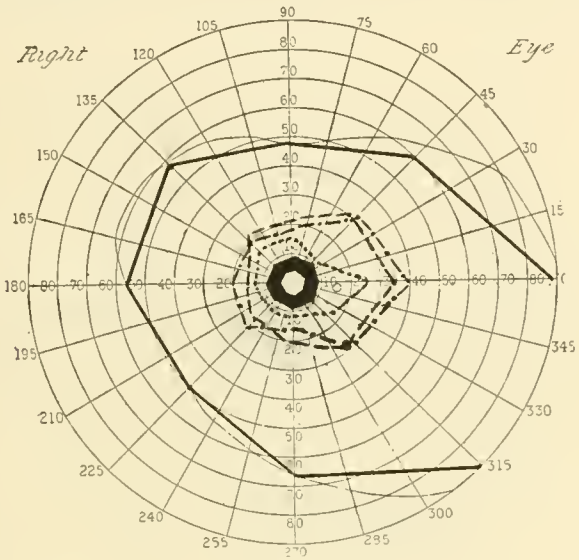
at the time of his first examination and afterward confirmed by Dr. Keen, and immediate opening of the mastoid was advised.

On June 21st, the operation was performed. The moment that the usual incision was made back of the auricle a few drops of pus escaped with the blood, although the skin was not red. On pressing with the blunt end of an Allis dissector the bone was so soft that it was penetrated with little effort. The bone was then gouged away in the supra-meatal triangle and in a few moments pus was found in the spongy tissue. Following this indication an opening was made nearly to the apex of the bone, and then upward and backward, the interstices being filled with pus, showing it had permeated the entire spongy tissue. No distinct mastoid antrum was found. As the lateral sinus was exposed a consider-

able gush of pus occurred. Upon inspection a part of the wall of this sinus was found to be distinctly gangrēnous and when it was touched with a pair of forceps it fell readily. From the inside of the sinus, nearly back to the torcular Herophili, a considerable amount of half-decomposed clot was curetted, but without any noticeable odor. Toward the apex of the mastoid there was also a considerable quantity of pus burrowing down toward the neck. An opening was made into the middle ear and the whole well syringed out and packed with iodoform gauze, no sutures being taken.



No. 4.

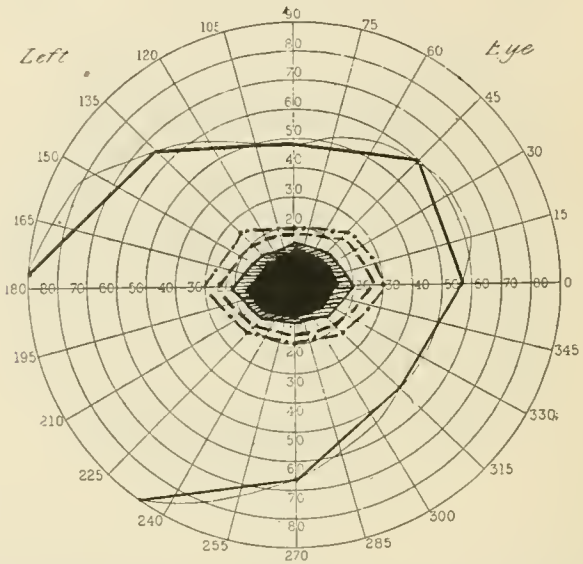
While there was a large clot it is to be noted that there were no septic symptoms. Culture tubes were inoculated from three points and sent to Dr. D. B. Kyle, who afterward reported that there was no growth in any of them.

The surgical progress was uninterrupted. By the third day after the operation the temperature had fallen to 98.8° in the morning, and though he had a slight fluctuation it was, on the whole, almost normal thereafter. It was quite curious, however, that he remained exceedingly thin, and though his appetite slowly improved, it was far from normal. On the 19th of July he was sent to the seashore with a view to building up his general health, which in a short time, under the change, assumed a normal condition. He is now a large, robust, healthy-looking boy, the gen-

eral appearance giving no indication whatever of the severe illness through which he passed.

On the morning of the day upon which the operation was performed, being the third day from the beginning of the intra-cranial symptoms, the first examination of the ocular conditions was made.

The pupils were equal in size and reacted promptly to light, convergence and accommodation. There was no visible impairment of the movements of the external ocular muscles and the fields of vision for form were normal. Central vision equaled 5/5 in each eye and accommodation was prompt.



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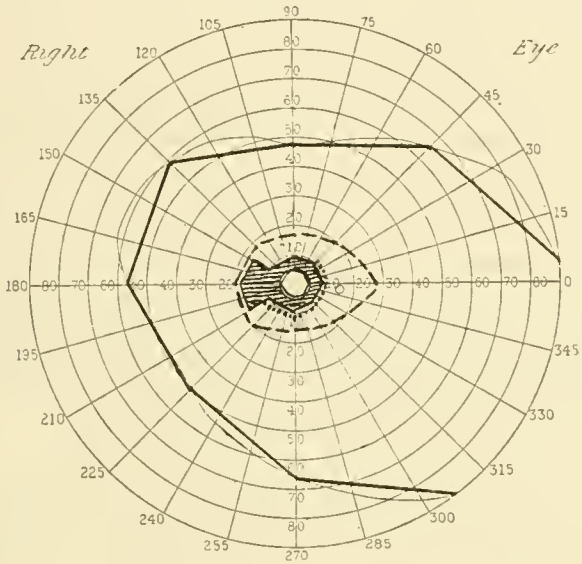
The ophthalmic examination of the right eye showed clear media, an oval and rather red disc with the edges everywhere veiled, full but not tortuous veins, and arteries somewhat smaller than normal. In the left eye the conditions were practically similar except that the veins were not quite so full. The opinion was expressed that the condition was probably a beginning optic neuritis.

The operation described above was performed a few hours after the examination was made and twenty-four hours later there was distinct swelling of each disc, considerable fullness, and tortuosity of the retinal veins, but without hemorrhages. The disc of the right eye was best studied with a +3.D lens and that of the left eye with a +2.D lens. Two

days later a few hemorrhages had appeared on the surface of each disc, the swelling of which had increased, the right now being best seen with a +4.D lens. the left with a +3.50D lens. The central vision and the fields for form and color were still normal. In another twenty-four hours the swelling of the discs had reached the highest points, for the right eye being +6.D, and for the left being +4.D.

One week after the operation had been performed there was observed a slight weakness of the accommodation and of the external rectus muscle in the right eye. On the following day the accommodation of the left eye had also become slightly impaired. Twenty-four hours later there



No. 6.

was complete paralysis of accommodation in each eye and paresis of the right external rectus producing diplopia, and requiring a seventeen degree prism to correct.

On the 13th of July, or two weeks after the appearance of the paresis, the accommodation of the right eye became nearly normal, and the paresis of the external rectus had almost disappeared. It was impossible to form any opinion concerning the accommodation in the left eye, as there was now a large central scotoma for red and green, extending nearly seven degrees from the fixation point in all directions. On each disc there was considerable exudate, the vessels being entirely hidden in places, and the vision of the right eye was 6/30 M, and for the left 6/60 M.

Six weeks after the operation had been performed the edema of the nerves had so subsided that the right was best studied with a+2.50D lens, and the left with a+2.D lens, the quantity of exudate, however, being but little changed in appearance. There was a small central absolute scotoma in the left eye extending about six degrees from the fixation point in all directions, and the fields for red and green were considerably contracted in both eyes, the form fields remaining normal. (Fig. No. 1 and 2) L—R. Vision of the right eye equaled 6/6 M, and of the left 2/100 M eccentrically. Accommodation in the right eye was normal.

The patient had been taking during the stage of edema small doses of bichloride of mercury, and considerable doses of potassium iodide, and was now placed upon strychnia. This he continued to use more or less irregularly for two months, when his vision was for the right eye 5/9 M. and for the left 5/100 ec. The swelling of the nerve-heads and the exudate had now almost disappeared; the hemorrhages had all been absorbed and the nerves were growing quite pale, especially in the temporal halves. The fields of vision at this time are presented in the second diagrams (Fig. 3 and 4). The fields for form are practically normal, those for color being markedly contracted, in the right eye there being a partial reversal of the blue and red fields. In the left eye there is an absolute central scotoma extending about four degrees above and below, five degrees to the nasal, and fourteen degrees to the temporal side of the fixation point. In the right eye there is an absolute annular scotoma completely surrounding the fixation point, about six degrees in width.

Inasmuch as the color fields now began to contract more rapidly and the scotomata to enlarge to a greater extent than the above fields show, he was given daily hypodermatic injections of strychnia in the temples for a period of seven weeks. At the expiration of this time the vision of the right eye equaled 6/6 slowly, and the vision of the left eye equaled 6/100 M ec, the annular scotoma of the right eye having become relative, the central scotoma of the left eye having become somewhat larger and remaining absolute. The patient was now given at different times thorough courses of nitro-glycerin, inhalations of amyl nitrite, phosphorus, etc.; and though the use of galvanism had been recommended some months before, the advice was not accepted until one year after the neuritis had subsided, when it was employed for some months without any appreciable benefit.

The fields shown in the third diagrams (Fig. 5 and 6) are those taken in January of this year, twenty months after the beginning of the neuritis. In the right eye the color fields are much more contracted and the scotoma

has extended somewhat on the nasal side, now being key-hole shaped. The vision for this eye is 6/7.5 slowly. In the left eye the fields for color are larger than in the first charts, but the size of the scotoma has increased, there being a narrow relative zone, for both white and color, surrounding the absolute area, the whole extending about 15 degrees above and below, and 20 degrees to each side. The green field is lost. Vision equals 4/100 M ec. These fields and visual acuity represent practically the conditions as they exist to-day and as they have existed for almost a year.

The case presents many points of interest, among which are the following:

1. An otitic facial paralysis that rapidly disappeared after the operation.

2. The optic neuritis appeared unusually early after the beginning of the cerebral symptoms, and was more intense on the side opposite to the lesion.

3. The appearance of the sinus thrombosis with acute purulent disease of the middle ear.

4. The progressiveness of the neuritis after the operation had been performed. In a case reported by Kipp, and another by Wilbrand, the neuritis rapidly subsided from the time of the operation, but in the above case, though the nerve heads were but slightly swollen on the day of the operation, making a positive diagnosis of optic neuritis impossible until the following day, the swelling markedly increased until typical choked discs were present, with an enormous amount of exudate. The highest points of swelling of the nerve heads were reached in about a week, but fresh exudate and hemorrhage continued to be formed for nearly a month after the operation had been performed. I believe that a similar condition of progressiveness of the neuritis, if I may so express myself, is occasionally seen after operations for brain tumor.

5. The character of the scotomata.—Early in the progress of the disease they were absolute, being central in one eye and annular in the other. As the neuritis subsided, the central increased in size and remained absolute, and the annular increased in size and became relative.

6. The case shows the great importance of making an ophthalmoscopic study of all cases of middle ear disease in which there is the least suspicion of intra-cranial extension. To quote Pooley again, if the disease remains limited to the middle ear and mastoid, there will be no intra-ocular complication, so that if the latter be found it is certain evidence that the disease has extended to the cranial cavity.

I wish to acknowledge my indebtedness to Dr. Keen for his courtesy in furnishing me with his surgical notes of the case.

NOTE.—Some months after the treatment of the optic atrophy had been begun, it was observed that the patient was becoming quite deaf, but little impairment of the hearing having been previously noticed. Examination showed the vault filled with adenoids, and he was referred to Dr. W. J. Freeman for their removal, after which hearing was as good as ever.

*For a complete resume of the symptoms, course and treatment of Sinus Thrombosis the reader is referred to the admirable monograph of Whiting in the *Archives of Otology*, vol. xxvii. No. 6, 1898.

A DEATH FOLLOWING A STY.—H. Guth (*Prager medizinische Wochenschrift*, No. 3, 1898; *St. Paul Medical Journal*, May, 1899) says that a woman was brought into the clinic with both lids greatly swollen, the conjunctiva chemotic, both eyeballs protruding, high fever, Cheyne-Stokes breathing, tonic and clonic spasms. Ophthalmoscopic examination showed septic retinitis; death followed; post-mortem showed that there was suppurative meningitis which had proceeded through infection from a hordeolum; the suppuration had infiltrated the orbital tissues and penetrated through the right cavernous sinus to the meninges.—(*N. Y. Medical Journal.*)

PHYSIOLOGIC COLORED RINGS OBSERVED AROUND FLAMES.—L. Demicheri calls attention to certain colored rings observed around a small bright flame suddenly lighted in a dark room. The colors are reversed from the order noted in Newton's refraction rings, as the red is outermost, with yellow, green, and sometimes a violet ring toward the center. He considers them a phenomenon due to diffraction. They also occur with the crystalline lens taken from lambs, cows, and fishes, and are easily studied with an electric light painted black except for a small circle.—*Anales de Oftalmologia*, April.

THE

OPHTHALMIC RECORD.

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME VIII. CHICAGO, JUNE, 1899. NO. 6. NEW SERIES

EDITORIALS.

SHOULD SPECIALISTS EVER PAY FOR CASES REFERRED TO THEM?

I was somewhat horrified at the apparently ominous silence which greeted Dr. Black's letter on paying physicians who send us cases.

My only reason for not writing a protest at once was that I thought the RECORD would be so overwhelmed with letters on the subject that it would not be possible to publish them all. No doubt many others were prevented from writing by the same reason. I hope so, for if their silence means consent to the principle laid down by Dr. Black, our specialty must be in a bad way. Dr. Black says that while he does not believe in paying a stipulated fee for every case referred by a physician, he believes it to be our duty to pay a reasonable amount for those cases in which the physician has spent considerable time in getting them to come to us, or where he has rendered services for which he does not like to send the patient a bill. This may not be pure commercialism, but it certainly opens wide the door to it. Dr. Black puts the proposition in this way: Doctor, you have done a good deal for this patient, and have been to considerable trouble to get him to come to me, and since you can't charge him for it, I will pay you myself. But how easy the transition to the corollary which, though unexpressed, is inevitably implied: "And the harder you work for me in the future, the more I shall feel it my duty to pay you." And in deciding whether to send his patients to A or B, how hard it will be for the physician not to decide that, "after all, A is the safer man," if A is the one who gives the more liberal interpretation of the value of his services in securing the patient. Should this principle of Dr. Black's be

accepted, it will be a break in the levee which will surely lead to a flood of corruption.

When a physician sends a patient to a specialist, he does not do so as a favor to the latter, but to serve the best interests of his patient; and if he does not like to send the patient a bill for any services which he may have rendered, he certainly ought not to expect the specialist to obtain the money for him under false pretenses; for that is what it would amount to under Dr. Black's principle, since, in the long run, the specialist's charge would surely be gauged with reference to the amount to be paid over to the physician. The proper way to meet this difficulty is to say to the physician: "Charge the patient whatever your services are worth, and if you prefer, I will collect it for you; will even take it out of my fee if necessary, but the patient must know where his money goes."

The ethics of this question are so plain that I fear I am insulting the moral sense of the RECORD's readers by discussing it at such length; but Dr. Black's sincerity and candor are so evident that I do not like to see his letter go unanswered. He has my sincere sympathy, too, in his desire to do something to get even with the men who do so much for us. From the bottom of my heart I wish that there were some honest way to give them a reward more substantial than words for their unselfish devotion to the interests of their patients, and, incidentally, of ourselves; but the moment a money consideration is permitted, corruption is sure to follow. The only honorable requital that we can give them is to treat all of their patients, poor and rich alike, with our utmost skill, courtesy, and consideration.

H. G.

CYCLOPLEGIA IN THE REFRACTION ROOM.

A certain number of gentlemen who are connected with the New York Post-Graduate School have taken occasion at different times to set forth in the New York *Post-Graduate Journal** their views upon the uselessness of having the accommodative effort suspended for a proper determination of an error of refraction. What possible object these gentlemen have in maintaining this position we are at a loss to understand. If they alone were to practice ophthalmology without using cycloplegics in their refraction work it might not be far-reaching, but when students beginning their ophthalmological career are taught that an error of refraction can be determined as accurately without cycloplegia as with it, then it does become far-reaching, and probably accounts for some of the woefully poor work performed by some of them. If this were all, still it would not be

so bad, *but the army of opticians not permitted to use cycloplegics, who are ever ready to find some excuse for not doing so, cite these eminent authorities. and claim equal ability with the ophthalmologist in the determination of errors of refraction.*

If this doctrine emanated from a less prominent institution of learning it would not command our attention, but coming as it does from so prominent an educator, we are compelled to say in plain terms what we think about it. We have known for some time past that Dr. Roosa did not believe cycloplegia at all necessary except "in very rare and exceptional cases."† We hoped he would not be able to influence his subordinates to adopt his way of thinking. We infer from the utterances of some of these gentlemen that cycloplegia in the refraction room is infrequently resorted to in New York. If this is so, we extend our sympathies to their patients. We do not propose to analyze their reasons for dispensing with cycloplegia in refraction work. This, from our standpoint, would be impossible. We are at a complete loss to understand it. If New York is right, then the rest of the world must be wrong. What a frightful state of ignorance! Fortunately Dr. Roosa and his staff at the Post-Graduate do not represent all of New York, and it is to be hoped that all of the New York ophthalmologists are not so misguided.

We shall not attempt to defend the position that cycloplegia holds. It needs no defense. If accurate work is to be performed, the position of cycloplegia is established as a positive necessity in the refraction room.

M. B.

* *The Post-Graduate*, Vol. XII. No. 12. Vol XIV, No. 11.
† *Medical Record*, New York, March 26, 1892.

Readers of the RECORD who intend visiting London for the purpose of attending the *International Otological Congress*, or Utrecht for the *International Congress of Ophthalmology*, or Portsmouth for the meeting of the *British Medical Association*, should not fail to correspond with Dr. George F. Keiper, Lafayette, Indiana, who is engaged in making up a party to visit those meetings.

REPORTS OF SOCIETIES.

CHICAGO OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY.

A regular meeting was held April 11, 1899.

The President, Dr. Lyman Ware, occupied the Chair.

Dr. Charles H. Beard showed a case of *Vorticose Veins*, which presented remarkable features—first, owing to lack of choroidal and retinal pigment and thinness of the chorio-capillaries, the venæ voticosæ of both eyes are clearly visible; and second, because of the number of these vorticose veins. Most works on Ophthalmology, in describing the anatomy of the globe, state that these venous trunks are four in number. Some of the more recent authors modify this by the remark that there are *probably more*. In dissections of the eyeball Dr. Beard has more than once counted as many as seven. In each eye of this case, exactly nine such vortices can be clearly seen with the ophthalmoscope. There is absence of pigment in the fundi, notwithstanding the fact that the iridis, hair and skin are rich in that substance, so that all the choroidal vessels, veins and arteries are in plain view.

Dr. William H. Wilder showed under the microscope section of *Epithelial Cyst of the Conjunctiva*, taken from the case shown at March meeting of the Society. The cyst evidently developed from the glands of Krause in the fornix of the conjunctiva. One peculiarity about the specimen is that the cyst is lined by a double row of epithelial cells. The walls of the cyst are quite vascular, as is shown fairly well in these pictures. The cyst was removed with considerable difficulty; it proved to be much more extensive than was at first thought, for it extended under the orbit a considerable distance back of the caruncle, so that a good deal of dissection was necessary before it was entirely removed. Soon after the beginning of the operation it ruptured, and this added somewhat to the difficulty.

Dr. W. F. Coleman presented a case of *Sarcoma of the Tarsus*, in a patient aged 22, with a mottled red wash-leather appearance of the palpebral conjunctiva over the upper tarsal cartilage, which is considerably

thickened in its whole extent. The weight of the lid causes ptosis. Under chloroform the whole tarsus, except the ciliary border, was excised. The wound healed kindly, and no ptosis remains. Professor Klebs examined the specimen and pronounced it to be sarcoma.

Dr. W. F. Coleman made a further report on a case of *Sympathetic Serous Iritis Following Mules' Operation* reported at a previous meeting of the society.

Six weeks after the operation the glass ball was exposed by the giving way of a suture. The wound was freshened and sutured, but five days later nearly the whole glass ball was exposed.

Two nights later the patient was awakened by a severe pain in the right eye, followed in two days by the formation of posterior synechiae below and dotted opacities in the outer 3/4 of the area of the cornea. V.=6/12. No opacities in the vitreous. The fundus and disc look cloudy, though the edge of the latter is well defined, and surface not striated, the cloudiness being attributed to the cornea. Calomel, grain 1/10 every hour, atropine, moderately hot compresses and occasional cupping were given.

At end of a month, V.=20/30. No conjunctival or ciliary injection. The motion of the glass eye is now up and down, and in only 12 degrees, and motionless outward. The patient says the vision of the right eye has been cloudy since the last injury to the left eye, but especially cloudy after the operation, since when there has been a blur or dancing shadow before the right eye up to three weeks ago, when vision became clear. A week after the operation the sight was so bad he could not, one day, recognize a friend beside him. Next day pain set in in the right eye, and recurred nightly from 3 to 4 A. M. for three weeks, and was relieved promptly and completely by hot compresses.

April 8th. Vision under homatropine=20/30 or 6/9 with —1.25. Some slight opaque dots in the cornea and at the lower edge of the pupil. Eye quiet and fundus clear.

The Committee of the *Ophthalmological Society of the United Kingdom*, appointed in March, 1896 (see *Annals of Ophthalmology* for January, 1899), reports: "We have not found a record of any case of sympathetic ophthalmitis following evisceration without the insertion of an artificial globe." The Committee adds: "We have collected records of five cases of ophthalmitis after the operation of evisceration, and the introduction of an artificial globe into the emptied sclerotic. (Mules' operation.)" In this case, since the injured eye remained quiet up to the time of operation, and gave rise to no sympathetic inflammation, and since evis-

ceration, *per se*, is scarcely known to be followed by inflammation, and serous iritis is so common a type of sympathetic disease, we are forced to conclude that the result in this case was due to the insertion of the artificial globe.

When this case was previously discussed, Dr. Wood remarked: "Since the main object of removal of the eyeball is to avoid sympathy of the fellow eye, it is inadvisable to risk the insertion of a glass ball."

Discussion.—Dr. Thomas Faith recalled seeing Dr. Bettman try Mules' operation in the Infirmary. He placed spheres in the cavity and closed them up with tobacco-pouch sutures. In two cases particularly they were extruded in a short time, and in one instance he had trouble with the other eye, requiring enucleation some time afterward on account of an irido-cyclitis, but there was some doubt in his mind as to the cause of the latter trouble. In fact, in this case the sphere had to be removed on account of the severe orbital cellulitis for the relief of the pain.

Dr. William H. Wilder never eviscerates an eye where the lesion has existed for some time, for fear there may be some focus of infection either in Tenon's capsule or in some of the lymph sheaths; and he only eviscerates immediately after an injury has been received; then the insertion of a glass ball might be practiced with possibly a reasonable degree of safety. He feels that it is positively the duty of the surgeon to take no chances whatever, when the ultimate result to be gained is merely a cosmetic one. He does not think the question of cosmetics should weigh anything at all, as against the possible danger to the other eye.

Dr. K. K. Wheelock. With reference to evisceration, some years ago Dr. Wheelock did this operation and had a good deal of trouble. There was considerable reaction, and the wound was a long time in healing. He believes some cosmetic results can be obtained from evisceration that cannot be secured from enucleation, but in a laboring man, where the question of time is of great value, he thinks enucleation should be preferred. He would like to know whether the reaction is very much following evisceration. He has not practiced it of late, but has been tempted to do so a few times. In laboring men he has hesitated on account of possible delay in healing of the wound.

Dr. Ware's experience has been that in evisceration there is a great deal more reaction, and the wound takes a longer time to heal.

Dr. Montgomery has done evisceration in a certain class of cases for at least ten years; he has had cellulitis in two or three instances, but with those exceptions the stump has healed as quickly as after enucleation, without any decided reaction or unfavorable symptom, and his practice

has been to leave the stump entirely open, not to introduce a suture at all.

Dr. Henry Gradle has performed half a dozen eviscerations without sutures. Healing of the wound took place at the end of two or three weeks. The reaction was more severe than after enucleation, but probably on account of the absence of sutures much less intense than is usually described. However, he could not satisfy himself in the long run of any advantage in evisceration, and has abandoned it completely.

Dr. Coleman (closing the discussion) has done a good many eviscerations in the last ten years, and so far as his experience goes, the patient could be dismissed from the hospital after an enucleation on an average of from three to four days. He took a hint from Dr. Prince, of Jacksonville, to swab the interior of the sclera with 95 per cent carbolic acid, a procedure which reduces the time the patient spends in the hospital. So far as healing goes, after the first week the wound progresses rapidly. He puts in a purse string suture, and the artificial eye can be inserted quite as early as after enucleation. He would prefer to do an evisceration in the presence of panophthalmitis rather than to cut open the optic sheath in doing an enucleation. After a year or more elapses, he thinks there is practically some difference in the size of the stump and in the mobility of the artificial eye.

Dr. Lyman Ware presented a case of *Synchysis Scintillans—Sparkling Synchysis.* Webster (*Archives of Ophthalmology*, Vol. 12, p. 179, Knapp's) states that in a total of over 45,000 eye cases only five cases were seen. It is generally believed to result from degenerative changes in the vitreous. In cases where the vitreous becomes detached from the retina, where there has been loss of vitreous as a result of cataract operation or traumatism; where there has been chronic irido-choroiditis or fatty degeneration of the vitreous, it is noted in some of the cases reported that there is a diminution of tension, and impairment of vision. In this case there is no diminution of tension, but there is considerable impairment of vision.

Mr. S. is now 65 years of age. About five years since he began to have trouble toward evening or twilight, (night blindness) which so much increased the last year that he seems to be in fog all the time. V. L. 20/40; R., 20/80. Visual field much contracted. Urine contains albumen and the microscope shows fatty casts. The ophthalmoscope shows a large number of cholesterine crystals in the vitreous, which have the appearance, whenever the eye moves, as of a shower of gold dust. There are also a number of atrophic retinal patches.

Discussion.—Dr. Wm. T. Montgomery saw a similar case about ten years ago in a woman sixty-five years of age. With the ophthalmoscope she had 3½ D. of hypermetropia; the vitreous was found to be full of those beautiful, gold-like scintillæ. As the patient rolled the eye up and down, it was like a shower of falling stars. On correcting the hypermetropia, vision was found to be almost normal.

Dr. Lyman Ware thinks the cholesterin crystals in the vitreous in this case to be due to fatty degeneration. This man has fatty degeneration of the kidneys.

Dr. K. K. Wheelock, of Fort Wayne, Ind., saw a case of synchysis scintillans in a man eighty years of age, it being associated with colloid degeneration.

Dr. Thomas Faith remembers seeing a case of synchysis scintillans in Dr. Wilder's clinic some three or four years ago at the Infirmary. The patient had no pathological condition of the fundus whatever, and all she complained of was presbyopia. The woman was eighty-four years of age, Norwegian, well preserved, and had this condition for a number of years but had never paid any attention to it. The same condition was present a year and a half ago; the little particles, like gold-dust, were very numerous and small, but there was no other pathologic condition. It is well known that we have in all nervous tissues these cholesterin bodies present, and why should they not be present between the choroid and retina, between the vitreous and retina, or in the vitreous?

Dr. Gradle presented a case of *embolism of the central artery* with preservation of some central vision. Mr. L., 42 years old, had severe rheumatism ten years ago. His heart sounds are not clear. Hitherto with normal sight, he became blind suddenly in the left eye sixteen days ago. His right eye is normal. The left eye can barely see fingers (not count them) in an area of about ten degrees, slightly temporal from the visual line. In correspondence with this amount of sight, there is still a minimal pupillary reaction. The ophthalmoscopic appearances are those of embolism, but with some uncommon peculiarities.

The papilla is slightly edematous. There is retinal edema in irregular spots between papilla and fovea. Around the fovea is the cherry-red spot, with a few glistening white specks above it (degeneration?). The veins are slightly narrowed, but uniformly filled. Out of the arteries,the superior and inferior temporal branches are distinctly narrowed, all the other branches merely threadlike. Yet all arteries are distinctly and continuously filled with blood, and are nowhere interrupted. Above the macular region there is an unusual vascularity, as four fine arterioles can

be counted converging towards the retinal center. In this area are three minute fluffy hemorrhages. Below the macula, a fine arteriole is seen, of which a short length is distinctly and uniformly broadened, as if distended by a plug. The retinal area, which is still sensitive, does not differ ophthalmoscopically from the adjoining region.

There is probably either a macular arteriole arising from the central artery behind the embolus, or there exists a retino-ciliary communication. Consistent with this view is the existence of a macular arteriole, which, though very small, is about of ordinary size, and which can be followed from the center of the papilla towards the macular region.

Discussion.—Dr. K. K. Wheelock recently saw a case of partial embolism of one of the branches of the retinal artery with almost complete blindness. The patient recovered the eyesight in a few days under treatment. She was a very anemic, overworked, chlorotic young woman, and the movements of the embolic plug from branch to branch could be watched until finally it passed away almost completely with restoration of vision. The treatment consisted of absolute rest, massage and tonics.

Dr. William A. Fisher, read a paper on "*The Use of the Giant Magnet in Removing Foreign Bodies From the Interior of the Eye*," and gave a demonstration of its use in extracting pieces of steel from the eyes of rabbits.

Discussion. Dr. Henry Gradle in connection with Dr. Fisher's paper wished to cite the case of a young girl who had a chip of iron enter the sclero-corneal junction, penetrating through the lens. Dr. Gradle saw her a few hours after the injury with a large rent in the lens capsule, the external wound still open. He immediately made an iridectomy, extracted the lens, entered with a small magnet, but could not get the foreign body. Cyclitis set in. A few days later, partly for diagnostic purposes, and partly with the vain hope of accomplishing something, he placed her against the field-pole of ten horse-power motor, not differing very much in strength from this large magnet. She felt nothing. On bringing the eye in contact with it there was no visible change, but on enucleating a few days later the chip of iron was found displaced in such a way that he attributed its displacement to the application of the magnet. The foreign body was found in a position which it could not have reached by following a straight path or by sinking subsequently.

Dr. William H. Wilder: It seems like inflicting unnecessary injury upon the eye to draw a piece of steel forward, then around the lens, possibly injuring the posterior capsule, then through the suspensory ligament, making a rent in it, and then, in addition, running the risk of tear-

ing the iris for the purpose of bringing the foreign body into the anterior chamber. He really cannot see the rationale of having the foreign body make such a wide excursion with imminent risk of wounding important structures of the eye, when it is positively demonstrated that it is in the vitreous chamber.

Dr. Fisher (closing the discussion): In regard to the statement of Dr. Wilder of wounding important structures in extracting a foreign body with this magnet, will say it is not necessary to use enough force to cause serious injury to any of the important ocular structures, particularly when we have a rheostat to regulate the current. Dr. Wilder spoke of drawing the foreign body through the posterior capsule. This should not be done unless the lens was already opaque. A foreign body cannot be drawn through the lens, but by using enough force to draw it through the zonula, one can see the iris bulge, then turning off the current, turning the magnet around, and coaxing the foreign body into the anterior chamber. In this way very little, or no damage is done. Of course, reasonable care must be exercised in doing this operation, and not enough force should be used to injure important structures of the eye.

SECTION ON OPHTHALMOLOGY.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting April 18, 1899. Dr. George C. Harlan, Chairman, in the chair.

A Note on Holocaine.—Dr. Wm. F. Norris said that it is well known that holocaine has found tolerably widespread acceptance as a local anesthetic for the cornea and conjunctival sac, and that claims have been made for it as an antiseptic and germicide. He has used it in a considerable number of cases in both hospital and private practice, and has been specially gratified by its effects on corneal ulcers. In several such cases which have for many weeks dragged along with slight progress and frequent relapses, great improvement has been manifested from the use of holocaine, as shown by rapid diminution of the infiltration area, and later by healing of the ulcer. The method of application has been by flushing the conjunctival sac with a 1 per cent solution, and by touching of the floor of the ulcer with a little cotton swab saturated with it. It has been a question in his mind whether holocaine was really a germicide or whether it simply afforded a medium which was unfavorable to the growth of microbes. He therefore called in Dr. D. H. Bergey, of the Laboratory

of Hygiene of the University of Pennsylvania, who found that a 1 per cent solution of holocaine applied to staphylococcus colonies had no effect in one-half an hour, but killed all of these microbes in 2½ hours. A 1 to 1,000 solution of mercuric bichlorid has a nearly similar effect; for two hours after the application the staphylococci were still alive.

Discussion.—Dr. Friebis has been favorably impressed by the use of holocaine as an anesthetic in tenotomy, and considered its non-effect upon iris and ciliary muscle a decided point in its favor. In reply to a question of Dr. Oliver as to its action upon the corneal epithelium, Dr. Norris replied that the desquamation was inconsiderable. Dr. Hansell stated that he had used holocaine constantly for several weeks in a case of neuro-paralytic keratitis, with the gratifying results of relief to the severe pain, the reproduction of the corneal substance, and healing of the ulcer. Dr. de Schweinitz has used it in a case of hypopion-keratitis with decided advantage. In reference to the strengths that can be used, Dr. Oliver referred to the recent researches of Scrini on the so-called oily collyria, in which it was determined that pure holocaine can be mixed with oil in the strength of 3 per cent at a temperature of 80° C.; the author finding that the chief advantages of the plan being the increased power and the rapidity of action of the drug when placed in such a menstruum.

Dr. Wm. F. Norris exhibited a patient upon whom he had operated for *symblepharon*, by transplanting a piece of skin from behind the ear onto the raw surface of the eyeball. The transplant had healed without sloughing. The increase in rotation of the ball was marked.

Dr. Charles A. Oliver demonstrated a *New Method* (a modification of Frost's and Morton's plans) *for the Implantation of Glass Balls into the Orbital Cavity in Cases of Enucleation.* After freeing the conjunctiva from the globe at the corneal limbus and dissecting it back so as to expose the tendons of the four recti muscles, each of the lateral muscle tendons is secured by a long, continuous catgut suture, and freed from the eyeball. The vertical recti muscles are dealt with in the same way. Working in between the broad loops of catgut holding the ends of the muscles, the eyeball is enucleated without difficulty. The capsular cavity is thoroughly cleansed, and a glass ball which is water-tight and about three-fourths the size of the normal globe is placed in the situation previously occupied by the globe. The cut ends of the lateral recti are sutured together, followed by the vertical recti, thus enclosing the sphere within Tenon's capsule. The cut edges of the overlying conjunctiva are brought together by a series of silk threads, and the operative field is covered by a gauze

protective bandage upon which iced compresses are placed. There is no reaction, and the socket is ready for the insertion of an artificial eye in a very brief time; in fact, earlier than after ordinary enucleation. The results are fully as good as those obtained by Mules' method. The operation is offered on trial for cases in which abscission, keratectomy, or evisceration with insertion of artificial vitreous is impracticable or impossible, thus affording opportunity of obtaining well-fitting and freely mobile artificial eyes.

Discussion.—Dr. Harlan called attention to the fact that Mr. Carter was in the habit of closing the wound in abscission of the cornea by suturing the muscles over it after freeing them from the ball. He also stated that Dr. Risley had shown him a case in which a Mules ball, inserted after enucleation, had dropped out of the muscle-cone. He thought that the largest-sized Mules ball was too small for this purpose. Dr. de Schweinitz had employed Suker's method of preparing a stump for an artificial eye, *i. e.*, the suturing together of the recti muscles with catgut and the conjunctiva with silk after complete enucleation, and had produced an excellent cosmetic effect, which, however, he felt sure would be temporary, owing to later shrinking of the tissues. Therefore, he thought Dr. Oliver's suggestion an admirable one.

Dr. P. N. K. Schwenk reported, by invitation, *Several Cases of Dislocation of the Eye-ball.* Traumatic dislocation may be *simple* or *compound.* In the former, the orbital tissues are stretched only, in the latter they are lacerated and the ball may have suffered injury, and in both the ball lies in front of the spasmodically closed lids. Case I. A child, blind from birth, while stooping ran a spear into the right orbit. Case II. A small terrier dog was run over by a heavy wagon, the wheel of which passed over his neck. The left eye was completely extruded. A canthotomy was done, when the ball jumped back into the orbit with a thud and the lid closed in front of the cornea. The eye made a complete recovery. Case III. A man in falling struck his face (probably the external orbital angle) against a table. The eye and its adnexa were badly bruised and torn, demanding enucleation.

Dr. Wm. Campbell Posey *Reported a Case of Complete Monocular Blindness from a Head-injury, Followed by a full Restoration of Vision.*— The case was that of a young man who had received a hard blow over his left eye by the occiput of his child's head while at play. The patient was quite stunned for fifteen minutes and suffered excruciating pain in his lest eye and temple. The skin was not broken, and there was no hemorrhage into the conjunctiva, or from the nose or mouth. Vision was

unaffected until thirty-six hours after the accident, when a veil appeared to drop over the affected eye. Five days after the accident, the eye was totally blind, the pupil was stationary to light stimulus, the head of the optic nerve was pale, and the venous pulse showed marked alterations in rhythm. The patient was placed in bed and leeched, his bowels opened by salines, and free diaphoresis obtained by jaborandi. This was followed by mercurial inunctions and later by potassium iodide. After three days of this treatment there was light perception in the upper nasal field; and in three weeks vision returned to normal. The fields of vision which were obtained as soon as sufficient sight was regained to make this possible, were interesting, as they showed a small, absolute, central scotoma and a larger, paracentral, relative scotoma. The author attributed the lesion to a fracture through the orbit, probably through the roof of the sphenoid, rejecting the explanation offered by Nettleship in three somewhat similar cases of a hemorrhage into the sheath of the nerve.

Oculo-motor Paralysis from Typhoid Fever, with a Case.—Dr. de Schweinitz reported a case of complete right oculo-motor paralysis without involvement of the ciliary muscle, occurring in a man aged 22, during the relapsing period of a severe case of typhoid fever. Four months after the attack the ptosis had disappeared, but there was limitation of the upward, downward, and inward rotations, the inward movement being most limited. Dr. de Schweinitz briefly reviewed the literature of extra-ocular muscle palsies occurring as a complication of typhoid fever, and thought his case might be explained by a meningitis, or perhaps by an effect of the disease directly upon the oculo-motor nerve, producing a neuritis, precisely as it produces neuritis of other nerves in the body, notably those supplying the extremities.

Discussion.—Dr. C. A. Oliver asked if the case showed any albuminuria, as he was at present studying an excellent example of the nuclear type of relapsing oculo-motor palsy following chronic nephritis from typhoid fever in a young woman, that served as an illustration of Knies's belief of association of the two causal conditions. Dr. de Schweinitz replied that albuminuria was not a factor in his case.

Is there a "Hypermetropia Acquisita?"—Dr. B. A. Randall challenged the common view that there is a natural reduction in the refraction of the eye, and called for any competent evidence of it. That nearsight grows less annoying is generally ascribable to the narrow pupil of age; that farsight appears, which had been previously unnoted, is due to waning of the accommodation which had covered it. Flattening of the lens is as little proven as the popular idea that the cornea flattens; and the claim

that the lens-layers become more homogeneous in refraction-index with age seems contrary to most of the known facts. The cases scientifically observed through the period from 55 to 80 must necessarily be few, and many will show increase of refraction from cataractous changes in the lens; unchanged refraction in a cited case in point might be plausibly but inconclusively ascribed to this, and in any showing decreased refraction proof that previous measurements were unimpeachable, will be virtually impossible. Mydriatics are rarely used in presbyopic eyes, and can fail as signally to abolish spasm in them as in younger eyes; accommodation is present, although its range is shortened, and Donders even represents a diopter as remaining at 80. The apparent confirmations of "H. acquisita" prove too much both in degree and rapidity of change, as in a case cited, where H=1.50 at 54, became H=3 at 68, just as may happen in a few months with young eyes. Old eyes, like young eyes, are generally hypermetropic, often in notable degree; but the assumption that they are emmetropic in the middle period of life lacks scientific basis.

Dr. C. A. Veasey reported a case of *Double Choked-Disks in a Quiet Otitic Thrombosis of the Sigmoid Sinus, without Pyemia.* The patient was a 12-year-old boy who had had an attack of diphtheria, mild in character, about four months before the appearance of the aural symptoms. At the time of the appearance of the latter there had been an unusually severe attack of earache with a mastoid abscess, from which he seemed to recover after evacuation by the attending physician. Two weeks later there was a facial paralysis of the same side, severe frontal headache, repeated vomiting, great emaciation, but no retraction of the head, no mastoid symptoms, and but slight elevation of temperature. The mastoid was opened by Dr. W. W. Keen and found filled with pus, and the wall of the lateral sinus gangrenous. The latter contained a half-decomposed clot extending nearly to the torcular Herophili. Recovery from the local condition was prompt. On the day of the operation, three days after the appearance of the cerebral symptoms, a very slight edema of the disks was found, which, although the operation had been performed, continued to increase in intensity until typical choked-disks, with an enormous amount of exudate and hemorrhages, were present. Later there appeared paralysis of the accommodation in each eye and paralysis of the right abducens. After several weeks these conditions subsided, and two years later there was a large, central, absolute scotoma in the left eye, with visual acuity of 6/100, and a narrow, annular, relative scotoma in the right eye. with visual acuity of 6/7.5.

Discussion.—Dr. Randall stated that such patients are in the earlier

stages free from ophthalmic symptoms, and when they appear it is as frequently the side opposite to the lesion that is affected. Similar symptoms are found in pachymeningitis and disturbances of the dura mater. Dr. Harlan was reminded of the first choked-disk he ever saw, which occurred in a case of old middle-ear disease in a delicate young girl. As there was no other symptom than violent headache, the ophthalmoscope was used as a means of diagnosis between intracranial disease and pronounced hysteria. After death a cerebral abscess was found separated from the carious tympanic roof by sound brain tissue.

Dr. G. C. Harlan reminded the Section that he had shown, about a year ago, a pair of bifocals made by Borsch in which the reading part is formed of a circular lens 15 mm. in diameter, made of flint glass and sunk into the distant lens made of crown glass. The increased refraction of the small lens depends upon the higher index of flint glass, and its exposed surface is ground to the same surface as that of the larger lens. He has been in the habit of using these glasses in operating as well as in reading, and has found them entirely satisfactory. Recently Mr. Borsch has still further improved these lenses by burying the reading lens in the interior of the other so that it is practically invisible. The large glass is split into halves which are cemented together after the small one is inserted between them.

The glasses, which were exhibited, present no indication of their method of construction, which is a veritable puzzle to the uninitiated.

Discussion.—Dr. Thomson spoke in favor of the lenses, both from personal experience and that of his patients. He finds that the position and shape of the small lens allows one to walk, particularly up and down stairs, without difficulty.

HOWARD F. HANSELL.
Clerk of Section.

NEWS ITEMS.

Personals and items of interest should be sent to Dr. Frank Allport, 92 State St., Chicago.

Privatdocent Oeller, of Munich, and Privatdocent Baas, of Freiburg, i. B., have been appointed extraordinary professors.

Dr. Tschernıng has been made a Chevalier of the Legion of Honor.

Dr. Clifton S. Gray, a well-known oculist and aurist, died February 14th, 1899, at Little Rock, Ark. He was in his fiftieth year, and a native of Missouri.

Dr. Junge, professor of ophthalmology in St. Petersburg, and one of the most prominent oculists in the Russian capital, died last year. He was a pupil of v. Graefe and Helmholtz, and a frequent contributor to ophthalmic literature.

The *French Ophthalmological Society* held its seventeenth annual meeting in Paris, May 1st. The subject for discussion was "La Suppression du Crystallin Transparent," introduced by Professor Pflüger, of Berlin.

The Louisiana State Medical Society will hold its annual meeting in New Orleans on May 16th, 17th and 18th. Dr. E. W. Jones, of New Orleans, is chairman of the section on ophthalmology.

We record the death of Dr. Jabez Hogg, of London. He was born in 1817, and died April 23d at his residence in Kensington. He was a well-known ophthalmological surgeon, and became a member of the Royal College of Surgeons in 1850.

At a recent meeting of the executive committee of the Congress of American Physicians and Surgeons, Dr. W. H. Carmalt, of New Haven, Conn., was elected secretary. The next meeting of the Congress will be held in Washington, D. C., in May, 1900.

Alfred Graefe is dead. His name is indelibly engraven on almost every page of ophthalmological literature, and the history of his life is synonymous with the history of ophthalmology.

We extend our sincere congratulations to Dr. E. Oliver Belt, of Washington, D. C. His is the latest defection from the Record bachelor staff. Dr. and Mrs. Belt will spend the summer in Europe.

Section on Ophthalmology.—American Medical Association. Contributors of papers will confer a favor by forwarding to the secretary, Dr. C. H. Williams, 15 Arlington Place, Boston, Mass., as early as possible, an abstract of their contributions so that satisfactory arrangements can be made for a discussion of the same.

A new addition to Ophthalmological literature is the *Postep Okulistyczny*, published monthly in Krakow, Poland, in the Polish language. It is edited by Professor Wicherkiewicz. The subscription price is about three dollars per year. The following well known oculists will act as collaborators: Drs. Joseph Talko, Kramsztyk, Mitvalsky, Machek, Strzeminski, Rumszewicz. The first number contains an interesting article by Dr. Talko, sen, on Septico-pyemia following abscess of upper lid.

Dr. Hermann Knapp delivered an address before the Medical and Chirurgical Faculty of the state of Maryland at their last meeting, held in Baltimore, April 25th. His subject was, "Some Landmarks in the History of Ophthalmology," and it is needless to say that he treated the subject in his usual masterly manner.

Washington (D. C.) Society of Ophthalmologists and Otologists.—Dr. Frank Hyatt read a paper on "Chronic Simple Glaucoma, Treated Without Operation," at the recent meeting of this society. The chief features of the case were the peculiar fields of vision and the improvement in sight under the treatment with eserin.

Bristol, England, Eye Dispensary.—The annual meeting of this institution was held on April 11th, under the presidency of Mr. P. J. Worsley. The report showed that 1,710 patients had been treated during the year, being upward of 100 more than in 1897. During the eighty-seven years' existence of this institution 141,000 patients have been treated. The financial statement showed that a small favorable balance remains.

West of England Eye Infirmary, Exeter.—The foundation stone of the new West of England Eye Infirmary was laid by Mr. Franklin on

April 11th after a short service by the Bishop of Crediton. This infirmary was founded in 1808, and was the second in the United Kindom devoted exclusively to diseases of the eye. In 1895 it was decided to entirely rebuild the institution, and property adjoining the infirmary was purchased for that purpose. The section now commenced will cost about £8,500, toward which £7,500 has been raised.

Heredity of Ptosis Palpebrarum.—M. Münden, of Hamburg, relates (*Deutsche Med. Woch.*, March 9) that in 1820 a woman was crossing the river in a boat when it upset, and in her struggle the eyelids were convulsively closed; rescued and revived, the lids were permanently affected with ptosis. Pregnant at the time, when she gave birth to the child it was also affected with permanent ptosis palpebrarum. This child grew up and bore three children, two normal and one with the same congenital ptosis. The latter is still living, and one of his children is also affected in the same way.

For "Black Eye."—Dr. May (*Medical Record*) gives the following hints as to the treatment of "black eye:" When the patient is seen early, before discoloration has set in, cold compresses or evaporating lotions are indicated; this will reduce the swelling and limit the subsequent discoloration. But if the patient is seen after he has a fully developed "black eye," hot compresses and massage are required. The affected portion is smeared over with vaseline and is rubbed for ten minutes several times a day. By frequent massage and continuous applications the discoloration may be almost entirely removed within twenty-four hours. The professional "black eye" artists use, for several hours, a poultice of the scrapings of a root, the nature of which they keep secret, but which the author thinks is bryony root, and he has used the latter with good effects.

Glass Eye No Divorce Basis.—*Unique Cross Bill Is Set Aside by a Cincinnati Judge.*

Cincinnati, May 3.—Judge Jelke granted a divorce and alimony to Catherine Kraus from Charles Kraus to-day. When Mrs. Kraus sued for divorce her husband's attorney filed an answer, setting forth that his wife had a glass eye and had deceived him until after their marriage. Judge Jelke held facial or other physical blemishes cannot be cited as proof of fraud in marriage contracts.

Dr. D. B. St. John Roosa, of New York City, has published another book, entitled, "Impaired Eye Sight, Its Improvement by Glasses." Dr.

Roosa has revised and enlarged the first edition of his book, which was formerly published under the name of "The Determination of the Necessity for Wearing Glasses." It is now intended to be a complete manual for the student and practitioner on this interesting subject. It contains six chapters and plenty of illustrations.

R. Lehmann states (*Sem. Med.*, November 2) that if the patient keeps his eyes completely or partially open during the chloroform narcosis, and opens them whenever you try to close them, you can expect some accident, more or less severe. This phenomenon was noted twenty-one times in three hundred and twenty-nine anesthesias, and in each one there was either continuous vomiting, arrested respiration, peculiarly protracted agitation, or asphyxia and syncope, requiring artificial respiration.

Dr. Julius Samelsohn, of Cologne, died March 7, 1899, in his fifty-eighth year. He was a pupil of v. Graefe, eminently talented, very industrious, enterprising, and, scientifically, extraordinarily productive. He settled at Cologne in 1867; founded the Cologne Charitable Eye Hospital. Among his numerous publications we mention particularly one which is of paramount importance and will secure for him a permanent place not only in the history of ophthalmology, but also in that of general medicine, viz.: "On the Anatomy and Nosology of Retrobulbar Neuritis" (*Arch. f. Ophthal.*, xxxviii, 1, 1882.) It describes the author's discovery of the atrophy of the papillo-macular bundle in toxic amblyopia and other diseases.—*Archives of Ophthalmology.*

Louis Dor (Lyons) has been led by theoretic considerations, including the idea that sympathetic inflammation of the eye results from an altered composition of the intraocular fluids, to try the effect of the instillation into the conjunctival sac of an organic extract prepared by macerating the ciliary body of the eye of the ox. He reports the case of a man who was attacked with sympathetic ophthalmia one year before, and in whom removal of the exciting eye, and subsequent active treatment, including mercurial inunctions and injections, and iridectomy, had failed to prevent blindness, with pain and hyperæmia of the eyeball. The regular instillation of the extract of the ciliary body was followed by great improvement in all his symptoms, his improved vision allowing him once more to find his way alone. In another case of less severe sympathetic disease the improvement under the same treatment was equally noticeable.—*Medical Progress.*

Saunders' Medical Hand Atlases.—We desire to say a good word for Haab's new "Atlas on the External Diseases of the Eye," edited by Dr. de Schweinitz of Philadelphia and published by Saunders. It contains seventy-six colored plates and six engravings, has 228 pages, is well indexed and sells for $3. The book is of convenient size, and is well and clearly printed on good paper. Each picture is accompanied by an extremely intelligible description of the disease, together with its pathology and treatment, given in a practical and up-to-date manner. The first part of the book is devoted to a general description of the examination of the eye in health and disease, including refraction, muscle tests, etc. The pictures are good. Some of them are perhaps a trifle lurid, but this is a fault that will be seen in all similar books. On the whole they are excellent, and cover a multitude of subjects. We cannot see how other atlases of external eye diseases can sell for eighteen or twenty dollars, when this little book can be secured for $3. We heartily recommend this book, not only to ophthalmologists, who desire it for their own use and for use in their clinics and lectures, but we also recommend it to the general practitioner, because its perusal and a careful observation of its excellent pictures, will enable him to much more readily diagnose ophthalmic diseases.

Removal of the Wrong Eye.—This terrible blunder has been committed, according to the Montreal papers, by an ophthalmic surgeon of repute in that city, assistant oculist to the General Hospital, and oculist to the Western Hospital there. It is extremely difficult to understand how such a mistake could have been made, as the eye intended to have been excised was scarred by a large *leucoma adherens*, and was affected by general atrophy while the excised eye was, in all respects, normal. It seems that the globe had suffered a penetrating wound from a penknife some years before, and vision had been gradually and totally lost. It was deemed necessary, owing to threatened sympathetic disease, to remove the injured eye. The patient was anæsthetized, and although there were at least three physicians in the room nobody seemed to be aware of the accident until the operator examined more closely than he had done the excised eye that then lay in the palm of his hand. Old Moorfields men will remember how Mr. Tay (I think it was) always insisted upon marking the brow of *every* eye to be enucleated before the patient was chloroformed. That it has been possible for a surgeon, accustomed to do ophthalmic operations, to deliberately excise a perfectly normal eye in the presence of a second deeply scarred and easily

recognized globe would seem to make this precaution less superfluous than it appears at first blush. At the same time, assuming the sanity and sobriety of the operator, it is difficult to believe such an awful occurrence possible except, perhaps, in a case where the eyes were, to external appearances, exactly alike.

Women Medical Practitioners in Great Britain.—The Ophthalmological Society of the United Kingdom has followed the example set by the British Medical Association in 1892, having, at a recent meeting, resolved to admit women to its membership. Moved by this solemn event, and in a spirit of true condescension and brotherly well-wishing, the *British Medical Journal* remarks: "This liberal policy cannot but have the best results. Women have now the same legal status in the profession of medicine as men, and it is just and wise that the right hand of fellowship should be held out to them. It is desirable, in the interests of the profession at large, that they should be brought under those good influences—intellectual, moral and social—which a well-organized society exercises over its members, and it is not less to be desired in the interests of the individual ladies that they may have every opportunity of making themselves acquainted with the observations and the opinions of the most active workers in the various departments, and of experiencing that useful stimulus to good work and high purpose fostered by learned societies, which have never failed to set up a high standard of professional attainment and professional honor." All of which will cause a smile to illumine the comely features of our own medical women, who have for so long profited by those good influences—intellectual, moral, and social—that they have probably forgotten, if they ever experienced, the time when cruel man refused to let them gather under that high standard of professional attainment and professional honor which learned societies have never failed to set up.—*New York Medical Record.*

Glazed Book-Paper Bad for the Eyes.—The effect of glazed papers on the eyesight has recently occupied the attention of some German doctors. One authority examines the causes of the changes in the general reading and writing habits of the nation, and explains that in the earlier part of the century the old rag papers then in use, both for writing and printing purposes, were mostly of a dull gray or blue color, and were coarse-grained, so that thick letters had to be used by writers with quill pens or by printers on their old slow presses. With the introduction of

more modern fibres, paper received a smoother surface, steel pens could be employed, and the printing-paper could travel over quicker printing-presses. The fashion for brilliant colors and elaborate type-setting has been carried to such a state of perfection that a reflection is often created which could never arise from the rougher surface. Now, what is the effect upon the reader's eyes? In the old books or letters, with a mild and soothing light, the surface contrasted easily with the thicker and darker type or writing characters; now the highly-glazed surface offers reflections of the light, which, with the more elaborate and thinner type, produce a lot of shades and lights that are most trying. The paper has often to be turned in various directions to be seen more clearly, in order to distinguish the gray (or may be other shades) of the type from the shining white of the paper. This is similar in effect to the result in trying to decipher writing in the dusk. An experiment will soon prove this. Take an old edition, say of Shakespeare, and a new magazine on highly-glazed paper, and compare the sensation in the eye after half an hour's reading. The doctors therefore propose that the public inspectors of schools should order the use of sanitary paper for the eyes, by which they mean that a glazed or highly-polished surface should be avoided and the colors chosen should rather be gray or light blue, but no white, and, in fact no brilliant colors at all. The type should be clear and simple, but not too thin. The children whose eyes require protection, and through them the parents, should be taught to demand their favorite books and papers to be printed in the right style, and the excesses of a falsely-guided taste should be avoided. It is suggested that a few years of such policy would soon improve the eyesight.—*Invention.*

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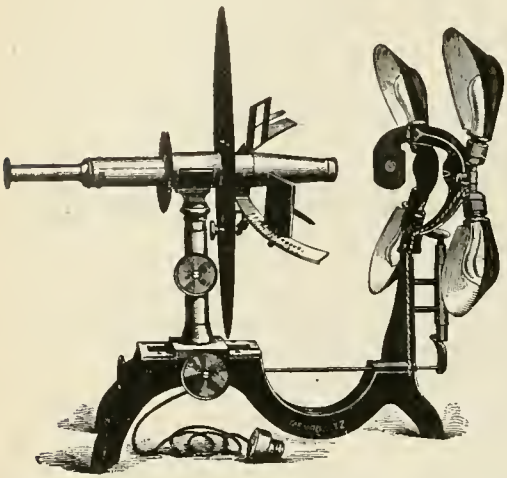

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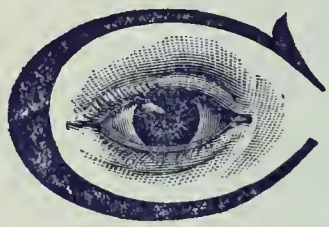
TRADE  MARK

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